



Programme 2:

Purpose:

Ensure that the country's water resources are protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner for the benefit of all people.

Water Resources Management

State of Water Resources Report

Rainfall

Although there were isolated and relatively brief occurrences of heavy rain in some parts of the country during the period, in general rainfall over much of the country was lower than the long-term average. Total rainfall less than 75% of the long-term average was recorded in the whole of Limpopo Province, the northern and coastal areas of KwaZulu-Natal, the western parts of the Free State and North West, the central and western parts of the Northern Cape, and the western parts of the Western Cape.

Figure 1a shows the percentage of normal rainfall over the country for the period April 2004 to March 2005, whilst Figure 1b shows the equivalent information for the previous 12 month period.

Water Availability

2004/5 was the fourth consecutive year of sub-normal rainfall. This is reflected in the continuing decline in the total volume of water in storage in the country's major dams, graphically represented in Figure 2.

The absence of significant Rainfall events to recharge aquifers in recent years has also resulted in a fall in groundwater levels in most parts of the country. Much of the drought relief effort during the reporting period was focused on emergency water provision in municipalities where dependence on groundwater is high, and where the sources are failing or have failed.

At the end of March 2002 the volume of water stored stood at a little less than 90% of total national full supply capacity, but this had fallen to around 67% at end-March 2005. In the Western Cape, where dams were, on average, only 28% full at end-March after a mid-year wet season high of about 55%, the situation is particularly serious, and widespread restrictions on water use were imposed.

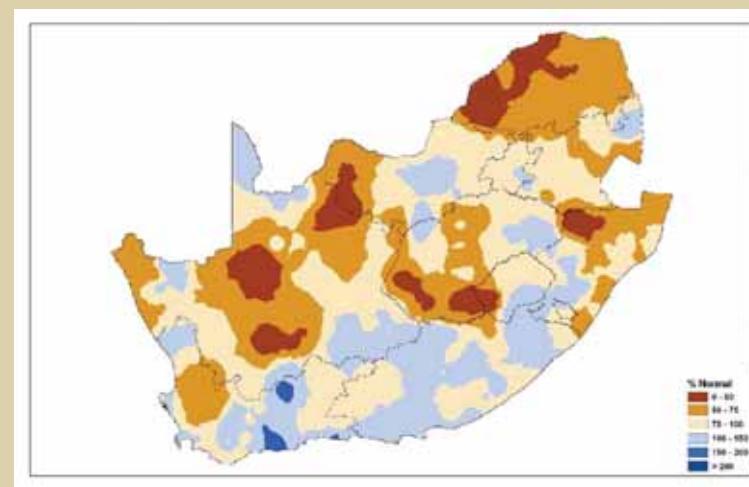


Figure 1a: Percentage of Normal Rainfall April 2004 to March 2005

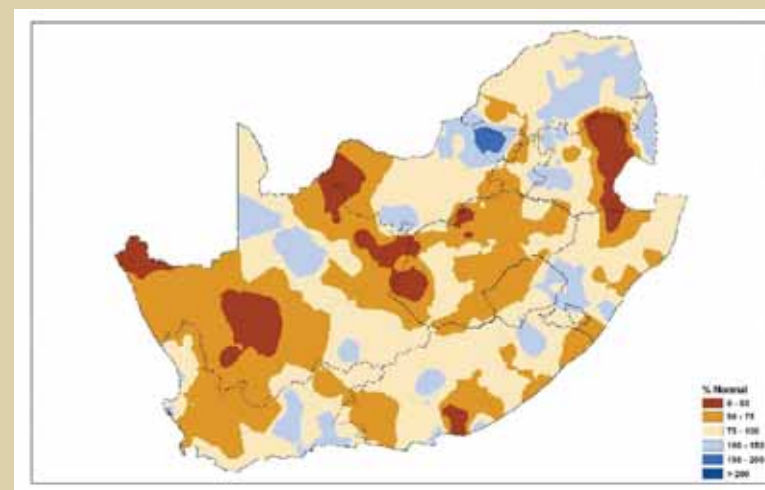


Figure 1b: Percentage of Normal Rainfall April 2003 to March 2004

While data is presented by province, it is important to note that some provinces are supplied with water by means of inter-basin transfers. Much of Gauteng's water, for instance, is supplied from the large dams in the Free State and Lesotho, and water can be transferred into Gauteng from the Thukela catchment in KwaZulu-Natal. Parts of the Eastern Cape also receive water from the Gariep Dam in the Free State. This flexibility does not extend to the Western Cape, where solutions to the water shortages currently being experienced must be found within the area.

Water use

Table 1 presents information on the volumes of water registered for use at the end of March 2005 in the three user sectors - forestry (stream flow reduction), agriculture (irrigation and livestock watering), and domestic/industrial - and also use in terms of Schedule 1 of the National Water Act, for which no charge is made.

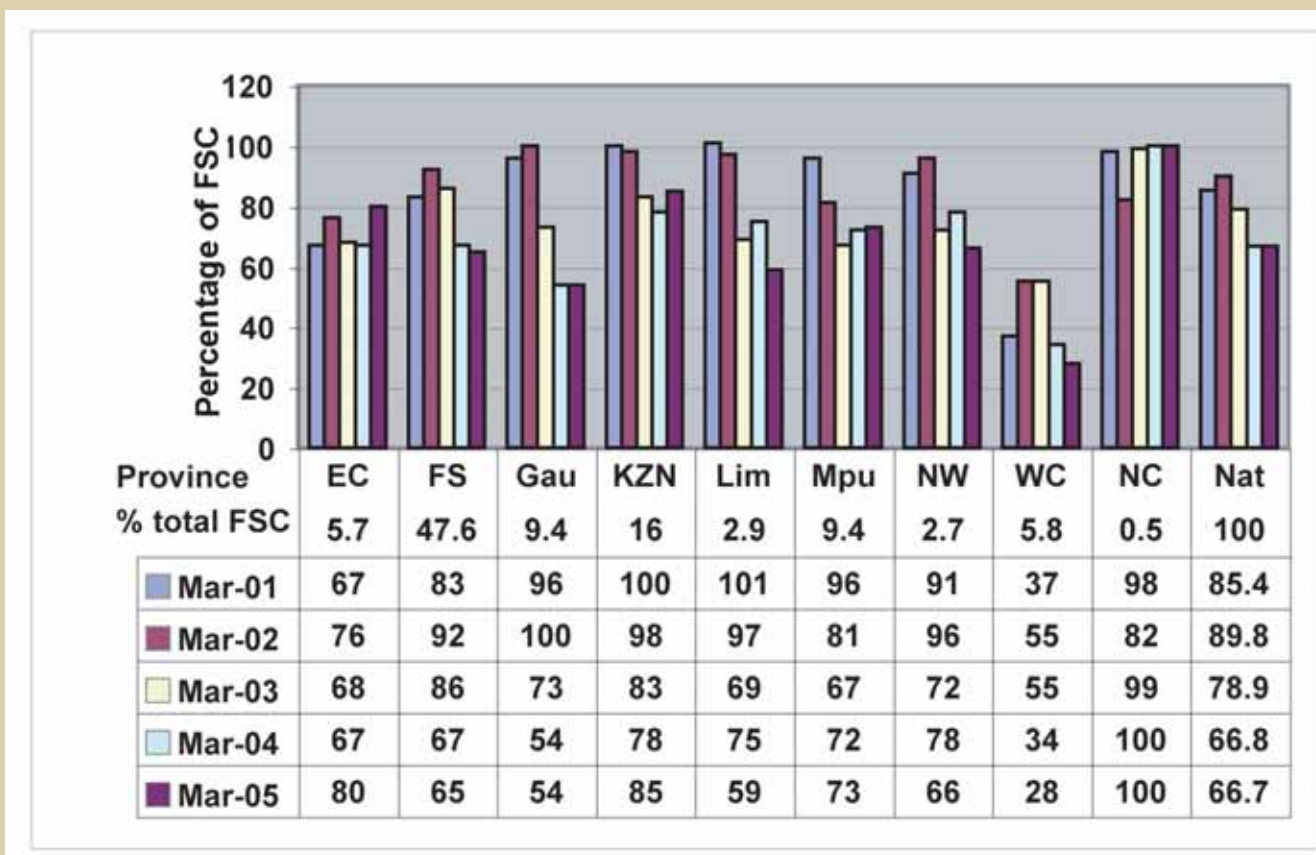


Figure 2: Water in storage as percentage of full supply capacity

Table 5: Annual registered water use at end-March 2005 (Thousands of cubic metres)

No	Water Management Area	Forestry	Agriculture: Irrigation/ Livestock Watering	Domestic/Industrial	Schedule 1 use
1	Limpopo	970	556 807	54 825	373
2	Luvuvhu/Letaba	35 407	425 993	42 215	15 193
3	Crocodile West- Marico	20	692 593	217 286	48 452
4	Olifants	27 191	695 103	245 941	31 615
5	Inkomati	254 140	979 594	202 080	2 008
6	Usutu-Mhlathuze	343 866	601 633	262 399	1 374
7	Thukela	30 491	247 801	120 050	361
8	Upper Vaal	11	528 829	1 843 398	581
9	Middle Vaal	-	292 543	319 643	4
10	Lower Vaal	-	579 509	131 369	3 728
11	Mvoti-Mzimkulu	192 800	217 292	465 883	4 583
12	Mzimvubu-Keiskamma	36 826	120 583	146 730	75 186
13	Upper Orange	-	768 688	96 523	-
14	Lower Orange	-	912 045	94 142	61
15	Fish-Tsitsikamma	18 169	1 222 953	142 654	10 224
16	Gouritz	9 979	412 704	64 179	255
17	Olifants/Doorn	117	403 990	4 343	960
18	Breede	8 495	836 203	52 916	3 289
19	Berg	6 426	317 420	412 298	34 822
Totals		964 908	10 812 283	4 918 875	233 069
Total					16 929 135

Some existing water users have registered volumes higher than their actual use, in the expectation that their registered use figures will eventually be reflected in their licences. As these claims are validated, verified and formally authorised by licences this data will progressively more closely reflect actual water use across the country.

The figures in Table 1 exceed those presented in Chapter 2 of the National Water Resource Strategy, First Edition, 2004 (NWRS), for two reasons. Firstly because of the over-registration discussed above, and secondly because the figures in the NWRS are standardised to 98% assurance of supply to facilitate country-wide comparison. This results in under-estimation of water use for sectors that require assurance of supply less than 98%. This is particularly so for irrigated agriculture, which is also the biggest sectoral water user.

Water restrictions

Restrictions on water use from surface water sources were imposed during the period as follows -

- Eastern Cape: 100% restriction imposed on industrial and domestic use and 25% restriction on agricultural use from Kouga Dam.
- Free State: Restrictions were imposed on water use from dams on rivers draining to the west. Industrial, domestic and agriculture were restricted by 85% of their allocations from Allemanskraal Dam. Restrictions on agricultural use were imposed at Kalkfontein (20%), Armenia (25%), Erfenis (60%), Krugersdrift (70%), Egmont (95%) and Koppies (100%) dams.
- Gauteng: No restrictions were imposed.
- Kwazulu-Natal: No restrictions were imposed.
- Limpopo: Restrictions were imposed in the Letaba and Luvuvhu/Mutale catchments. Agricultural use was restricted by 50% on Nzhelele Dam, 60% on Albasini, 20% on Ebenezer, 50% on Magoebaskloof, and 20% on Tzaneen. Industrial and domestic users were cautioned to use water sparingly to avoid restrictions.

- Mpumalanga: 40% restriction on agricultural use and 20% on industrial and domestic use from Bronkhorstspuit Dam in the Olifants River catchment. Use from elsewhere in the Olifants and Upper Olifants rivers was also restricted by 20%.
A 60% restriction was imposed on agricultural use from surface and groundwater sources in the Inkomati Water Management Area.
- North West: Use from most dams was restricted by between 80 and 100%.
- Northern Cape: No restrictions were imposed on users from surface water storage.
- Western Cape: 20% restriction on all uses was maintained throughout most of the period, 100% restriction was imposed on agriculture towards the end of the period.

The situation is under continuous review throughout the country.

Ecological Condition of Rivers

Biological monitoring presents a holistic and integrated picture of the condition of a river by monitoring the condition of the animals and plants that live in or near it, and which continuously experience - and therefore reflect - the cumulative effects of variations in flow rate and water quality over extended periods of time.

Since its inception in 1994 the River Health Programme has collected data on the biological attributes of 24 rivers or groups of rivers throughout the country. The catchments of the rivers, the combined areas of which represent a little more than a quarter of South Africa's total land area, range from rural to heavily urbanised and industrialised. Data on the condition of the river channels and banks, and the plants and animals that inhabit them, is being collected at a total of about 280 monitoring sites selected to represent as closely as possible the whole of the river system, that is, the mainstem channel and tributaries, from the headwaters to the estuary.



A preliminary analysis of the data collected indicates that 6% of the rivers studied are in an overall Natural condition, 22% are good, 44% are fair, and 28% are in a poor condition. Almost all the rivers surveyed have some parts that are in an overall poor condition, predominantly those situated in, or downstream of, urban and industrial areas. Conversely, overall Natural conditions are found in

the relatively small and sparsely populated parts of rivers upstream of major human activities. At present this analysis is very coarse, and does not distinguish among the various attributes that make up the overall characterisation. A more rigorous and comprehensive analysis of the data and trends is underway, the results of which will be presented in the Annual Report for 2005/6.



Main Achievements

The purpose of water resources management is to ensure that the country's water resources are protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner for the benefit of all people. The Programme's measurable objective is to ensure that water resources are allocated so that they promote social and economic development, maintain the reliable availability of water in sufficient quantities and of an appropriate quality to meet the needs of all consumers and meet international water-sharing agreements, whilst ensuring that water resources are protected to enable sustainable water use.

The Programme's activities are structured in a framework of key focus areas (KFAs) as follows -

- KFA 6: Ensure reliable and equitable supply of water for sustainable economic and social development including the eradication of poverty.
- KFA 7: Ensure the protection of water resources.
- KFA 8: Develop, implement and support effective water management institutions.
- KFA 9: Align staff, stakeholders and general public to a common vision for integrated water resources management (IWRM) and develop, capacitate and empower them to best practices.
- KFA 15: Promote integrated water resources management globally, particularly in Africa in support of NEPAD.

Some of the Programme's significant achievements during 2004/5 are described below, followed by a general summary of progress, in tabular format, against the intentions outlined in the Strategic Plan 2004/5.

The formal national framework for managing water resources was set in place when the National Water Resource Strategy, First

Edition, 2004, was approved by Cabinet in September 2004, and established by Government Notice in January 2005.

The publication of nine more Internal Strategic Perspectives - departmentally-prepared forerunners of the catchment management strategies that will be prepared by the catchment management agencies - completed the coverage of sub-national management strategies for all 19 water management areas. Steps were taken to improve liaison arrangements with provincial planning authorities to ensure alignment between water management strategies and provincial growth and development strategies.

The process of establishing new international, national and catchment-based water management institutions was progressed during the period, thereby moving the Department towards its ultimate role of sector policy maker and regulator by facilitating international cooperation in shared river basins, separating operational and regulatory functions, and decentralising the responsibility for managing water resources.

At international level an agreement to establish the Limpopo Basin Commission was signed by South Africa, Botswana, Zimbabwe and Mozambique, all of whom share the waters of the basin.

Other international developments included the conclusion of agreements with Lesotho - at ministerial level - to proceed with the feasibility study for the second phase of the Lesotho Highlands water project, and to undertake joint basin studies of the Maputo basin (with Mozambique) and the Limpopo basin (with Mozambique, Zimbabwe and Botswana). The pre-feasibility study for a joint South Africa-Namibia management plan for the Lower Orange River was substantially completed.

The Department began the process of separating the management and further development of national water resources infrastructure from its other activities with preparations for establishing a new Infrastructure Branch with effect from 1 April 2005. A study of institutional options for the management of water resource infrastructure in South Africa and preparation of a business case

for the establishment of a new public entity - the National Water Resource Infrastructure Agency - were commenced, and are on track for consideration by Cabinet early in the next financial year.

At water management area level the Inkomati Catchment Management Agency was established by Government Notice, and nominations for the governing board were submitted to the Minister by the advisory committee. The proposal to establish a CMA in the Breede water management area was published for public comment in the Government Gazette. The Notice to establish a CMA in the Mvoti-Mzimkulu was approved by the Minister, and Notices to establish CMAs in the Crocodile West/Marico, Usutu-Mhlathuze and Thukela water management areas were in advanced stages of preparation.

Ten new water user associations were established, and constitutions for a further four associations - for revitalised irrigation schemes in Limpopo Province - were in preparation. Ten existing irrigation boards were transformed into water user associations, and a further six transformation submissions were received for review and processing. Progress was made in arrangements to transfer operating and maintenance responsibilities for five government water schemes to water user associations - Boegoeberg, Kakamas, Lower Olifants, Sand-Vet and Van der Kloof - but there were delays in finalising staff transfer agreements in three of the schemes, whilst the other two requested deferral of transfer because they were experiencing drought-related difficulties.

The subsidy policy and programme of support to small-scale farmers was revised but targets for the number of farmers assisted were not achieved as implementation only commenced at the end of the reporting year.

The fourth consecutive year of sub-normal rainfall throughout most of the country necessitated continuing support to municipalities to deliver water services where sources - especially groundwater sources - had failed or were failing. In addition, construction of a pipeline to augment water supplies for industrial and industrial use was completed from the Rand Water supply system in Mamelodi to

Cullinan, and the extension to the Ekangala area was substantially completed. A pipeline between Morgenstond and Jericho dams, to augment water supplies to Eskom power stations on the eastern highveld, was also completed.

Other infrastructure developments included the finalisation of financing agreements for the funding of the Berg River Project in the Western Cape, where placing of embankment material and concrete to the outlet works commenced. The Olifants River Water Resources Development Project was approved by Cabinet, and design work on the De Hoop Dam on the Steelpoort River began. Design work also commenced on the pipeline from Vaal Dam, to improve assurance of supply to Eskom power stations and the SASOL complex in Mpumlanaga, after Cabinet approved the project. Work continued on the raising of Flag Boshielo Dam in Limpopo Province. Construction of the Nandoni Dam on the Levuvhu River was completed during the year. Work on the associated water treatment works and distribution network continued.

A number of new policies and strategies on various aspects of water use were developed during the period. The draft Policy for Water Allocation Reform for South Africa, designed to achieve equity in access to the use of water resources, was finalised and a national programme of public consultation commenced. The Policy on Financial Assistance to Resource-Poor Irrigation Farmers, which supplements the Water Allocation Reform programme by providing subsidies to new users to assist them to utilise their newly-acquired water, was approved by the Minister.

The ongoing drought has highlighted the vulnerability of groundwater resources to over-abstraction. A strategy to deal with unlawful water use by enforcing the conditions of use was piloted in dolomitic areas on the East Rand of Gauteng, North West and Northern Cape provinces.

The lengthy process of validating registered water use and verifying claimed existing lawful use was substantially completed in the Upper and Lower Vaal catchments and commenced in the Mhlathuze catchment.

The National Strategy for Water Conservation and Water Demand Management was finalised and published, together with subsidiary strategies for the Agriculture, Water Services, and Industry, Mining and Power Generation sectors. The Working for Water programme continued to address the problem of invasive alien vegetation by clearing around 142 500 hectares, following up on about 507 000 hectares of previously-cleared land, and provided about 12 000 person years of employment.

Work continued on the five-yearly review of the 1999 Water Pricing Strategy to, among other things, incorporate charges for waste discharge and the water research levy. After extensive consultation with key stakeholders a revised draft strategy was submitted to the Minister for approval prior to publication in the Government Gazette for public comment.

As part of measures to protect water resources, the requirements for a national system for classifying water resources were finalised and drafting has begun. High-confidence - "comprehensive" - preliminary Reserve determinations were initiated in four major catchments (Olifants/Doorn, Komati, Letaba, Kromme/Seekoie rivers) to support the water allocation reform programme, and lower confidence preliminary Reserve determinations were carried out in about 150 quaternary catchments to facilitate the evaluation of applications for water use licences. A number of baseline monitoring surveys and groundwater studies were initiated to support Reserve determinations.

A five-year plan was developed to facilitate the integration of all aspects of water resources monitoring, covering the quantity and quality of surface and groundwater, this was complemented by the development of improved methodologies to determine groundwater recharge, potential and use, and groundwater's interactions with surface water. The River Health Programme produced State of Rivers reports for the Buffalo (Eastern Cape), Crocodile West/ Marico, Berg, Diep and Hout Bay rivers, bringing the total number of rivers and river systems studied by the programme to 24.

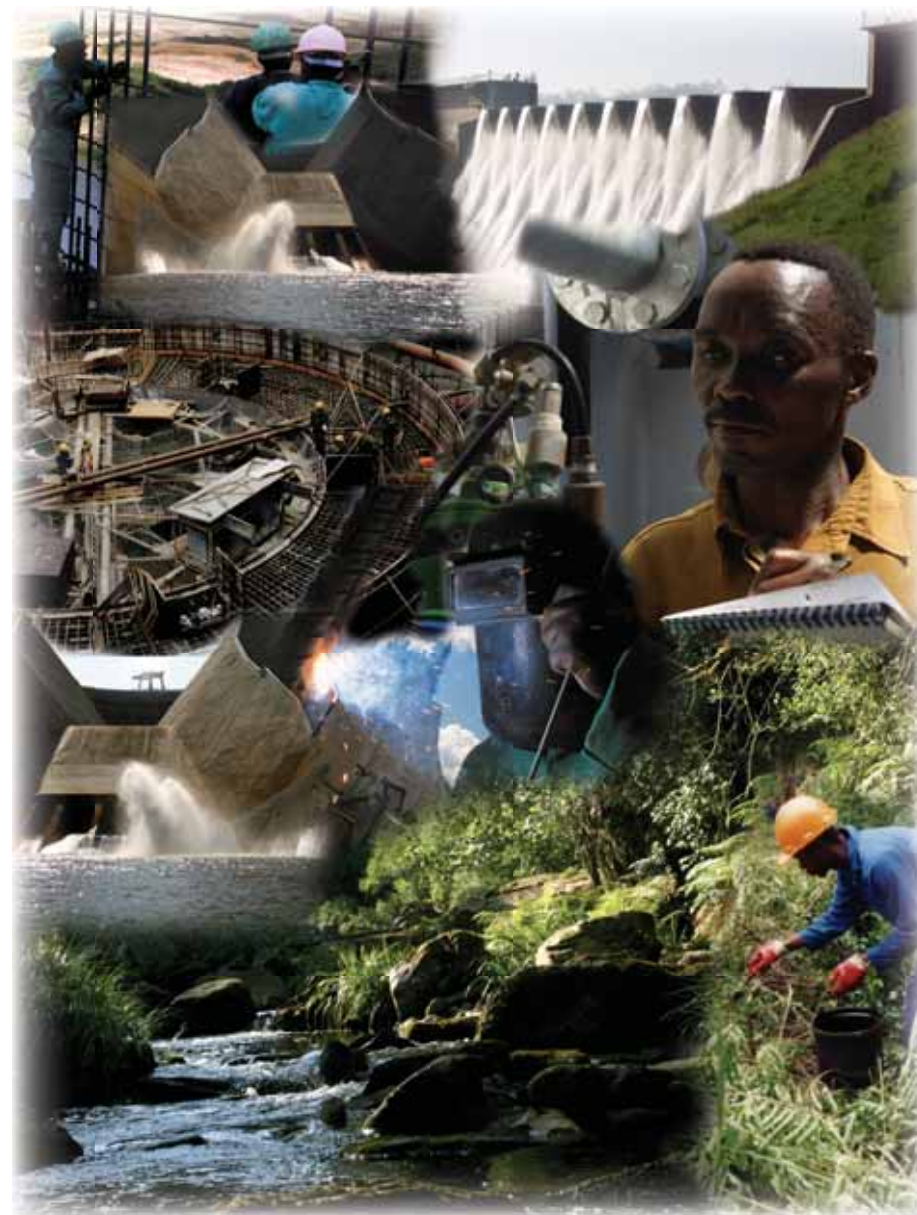


Table 6: Key Outputs and Service Delivery Trends

Key Focus Area (as per strategic plan)	Outputs	Service Delivery Indicators	Actual Performance
6 Ensure reliable and equitable supply of water for sustainable economic and social development including the eradication of poverty	<p>Subsidy system for Water User Associations in respect of resource-poor farmers revised and 300 resource poor farmers subsidised</p> <p>Water use strategy for poverty eradication and rural development finalised</p> <p>Water use license applications evaluated with average turnaround time of six months</p> <p>Reconciliation options determined for compulsory licensing in 3 catchments</p> <p>Existing lawful use verified in nine catchments</p> <p>Water trading taking place within agreed policy and guidelines</p>	<p>Subsidy spent effectively</p> <p>Strategy approved by WRPMC and programme initiated</p> <p>License applications processed within reasonable time</p> <p>Approval by WRPMC</p> <p>Certification</p> <p>Trades reported in Annual Report of DWAF</p>	<p>Subsidy Policy revised and approved for implementation</p> <p>Subsidies granted to four groups of farmers (76 total) on the Leeu River Water User Association</p> <p>Draft Policy for Water Allocation Reform for South Africa to achieve equity in access to the use of water resources finalised after consultation with key stakeholders, and national programme of public consultation commenced</p> <p>150 abstraction and 100 stream flow reduction licence applications received, and processed within time frames</p> <p>Models being set up for five catchments - modeling will be done during compulsory licensing</p> <p>Studies commenced for Vaal, Western cape, Crocodile West and Amatole systems</p> <p>Internal Strategic Perspectives (departmental forerunners of catchment management strategies) completed for all 19 water management areas</p> <p>Guideline on verification of existing lawful use completed</p> <p>Validating of registered water use and verification of claimed existing lawful use substantially completed in the Vaal catchment, and commenced in the Mhlathuze</p> <p>Guidelines on trading water use authorisations revised and approved</p> <p>159 licences surrendered to facilitate new applications (permanent trades), 11 in progress</p>

Key Focus Area (as per strategic plan)	Outputs	Service Delivery Indicators	Actual Performance
6 Ensure reliable and equitable supply of water for sustainable economic and social development including the eradication of poverty	<p>Compliance with conditions of water use authorisations visibly enforced</p> <p>100% compliance with infrastructure operating rules as determined</p> <p>Water supplied in accordance with agreements with users</p> <p>Revision of raw water pricing strategy incorporating Waste Discharge Charge System</p> <p>Water quality guidelines for use reviewed</p> <p>10% increase in water use efficiency on government water schemes</p> <p>Joint pre-commitment study on LHWP further phases 50% completed</p> <p>Agreement between RSA and Namibia on Management Plan for Lower Orange River</p> <p>Joint study on Maputo River basin undertaken</p> <p>Demographic scenarios reviewed</p>	<p>Directives issued for clearly defined cases</p> <p>Operating rules to accommodate determined Reserve (IFR) flows established</p> <p>Registration certificates in place</p> <p>Draft strategy approved by WRFMC</p> <p>Approved by WRFMC</p> <p>Measurable reduction in water use</p> <p>Agreement between the two countries</p> <p>Plan submitted to authorities</p> <p>Acceptance of report by Maputo Basin Permanent Technical Committee</p> <p>Report to WRFMC</p>	<p>Development of procedures to enforce conditions of use in general authorisations in licences finalised</p> <p>Approach piloted in dolomitic areas on the East Rand, and preparations in hand to curtail misuse in the North West and Northern Cape provinces</p> <p>Development of operating rules in progress for dams in catchments for which comprehensive Reserve determinations have been completed</p> <p>Commitments to bulk water users and water boards met</p> <p>Water supplied in accordance with drought conditions to agricultural users</p> <p>1999 Water Pricing Strategy revised to incorporate charges for waste discharge and the water research levy, consulted with key stakeholders and submitted to the Minister for approval prior to publication in the Government Gazette for public comment</p> <p>Review and revision of guidelines for all sectors in progress</p> <p>The National Strategy for Water Conservation and Water Demand Management, and subsidiary strategies for the Agriculture, Water Services, and Industry, Mining and Power Generation sectors finalised and published</p> <p>Ministerial-level agreement with Lesotho to proceed with the feasibility study for the second phase</p> <p>Joint prefeasibility study completed</p> <p>Agreement reached with Mozambique to proceed with the study</p> <p>Study in progress</p> <p>Review completed, report prepared, revisions in progress</p>

Key Focus Area (as per strategic plan)	Outputs	Service Delivery Indicators	Actual Performance
6 Ensure reliable and equitable supply of water for sustainable economic and social development including the eradication of poverty	<p>Water demand scenarios reviewed</p> <p>Vaal Management options investigated</p> <p>Prefeasibility and feasibility reports on reconciliation solutions completed for 12 studies</p> <p>Invasive alien vegetation treated and cleared in 750 000 hectares (new and follow up areas)</p> <p>Water conservation & WDM developed and implemented by 20 Water Management & Water Service Institutions supported by DWAF</p> <p>Start on Berg River Water Project Commission Nandoni Dam Continue raising of Flag Boshielo Dam</p> <p>Dam safety legislation administered and dam safety programme managed</p> <p>Emergency pollution incidents remedied</p> <p>Strategies and implementation guidelines on flood management substantially complete</p>	<p>Report to WRFMC</p> <p>Acceptance of inception report by WRFMC</p> <p>Approval by WRFMC</p> <p>Working for Water Information Management System & Key Performance Indicator data reports</p> <p>Number of Water Management Institutions & Water Service Institutions who initiated the program</p> <p>Compliance with implementation plans and budgets</p> <p>Reports on compliance with dam safety legislation</p> <p>Directives met</p> <p>Approved by WRFMC</p>	<p>Work included in larger reconciliation studies (see above)</p> <p>Prefeasibility/bridging study on the augmentation of the Eastern Vaal Sub-System via a pipeline from Vaal Dam to Secunda completed and all study reports finalised</p> <p>12 studies completed Five new studies started</p> <p>142 500 hectares of invasive alien vegetation cleared Follow-up clearance of 507 000 hectares About 12 000 person years of employment provided</p> <p>National Strategy for Water Conservation and Water Demand Management finalised and published, together with subsidiary strategies for the Agriculture, Water Services, and Industry, Mining and Power Generation sectors</p> <p>Financing agreements finalised Placing of embankment material and concrete to the outlet works commenced Nandoni Dam commissioned Construction approximately 35% complete</p> <p>92% of registered dams with a safety risk (4 203) classified to date 50 dam safety inspection reports completed</p> <p>Remedial work completed on Bulshoek Dam, and underway at Damini, Jan Tshatsu and Flag Boshielo dams</p> <p>All reported incidents dealt with in accordance with departmental policy and procedures</p>

Key Focus Area (as per strategic plan)	Outputs	Service Delivery Indicators	Actual Performance
6 Ensure reliable and equitable supply of water for sustainable economic and social development including the eradication of poverty	<p>Strategies and guidelines on drought management substantially complete</p> <p>Existing Water Management Area (WMA) disaster management plans reviewed. Three new WMA plans developed</p> <p>Support departmental public safety unit development, implementation and co-ordination</p>	<p>Approval by WRFMC</p> <p>Plans approved by National Disaster Management Centre</p> <p>Approved by MANCO</p>	<p>Progress limited due to staff involvement with coordinating support to countries impacted by the December 2004 Indian Ocean tsunami</p> <p>Progress limited due to staff involvement with managing ongoing and widespread drought conditions</p> <p>Progress on hold pending analysis of the requirements of the recently established National Disaster Management Framework</p> <p>Establishment of Unit on hold pending analysis of the requirements of the recently established National Disaster Management Framework</p>
7 Ensure the protection of water resources	<p>Guidelines for effective WQM catchment studies developed and pilot completed at catchment scale</p> <p>Framework for classification system developed</p> <p>Reserves determined for compulsory licensing in 5 priority catchments and ad hoc Reserves determined</p> <p>Framework for systematic conservation of SA rivers developed</p> <p>Riverine vegetation policies developed</p> <p>Procedures for operationalising Reserve completed</p>	<p>Approved by WRFMC</p> <p>Approved document published in Government Gazette</p> <p>Approved by Director General</p> <p>Approved by WRFMC</p> <p>Approved by WRFMC</p> <p>Approved by WRFMC</p>	<p>Guidelines developed and approved</p> <p>Requirements for a national system for classifying water resources finalised and drafting commenced</p> <p>High-confidence - "comprehensive" - preliminary Reserve determinations initiated in four major catchments (Olifants/Doorn, Komati, Letaba, Kromme/Seekoie rivers)</p> <p>Lower confidence preliminary Reserve determinations carried out in about 150 quaternary catchments to facilitate the evaluation of applications for water use licences</p> <p>A number of baseline monitoring surveys and groundwater studies initiated to support Reserve determinations</p> <p>Background information compiled, development of framework completed, and policy development initiated</p> <p>Wetlands delineation guidelines finalised and approved</p> <p>Development of desk-top Reserve methodology for estuaries finalised and approved, and for wetlands in progress</p>

Key Focus Area (as per strategic plan)	Outputs	Service Delivery Indicators	Actual Performance
7 Ensure the protection of water resources	<p>Resource Quality Objectives procedures revised in line with classification system</p> <p>Quantification of dependency of terrestrial ecosystems on groundwater commenced in two pilot areas</p> <p>Ad hoc groundwater resource Reserves determined</p> <p>Feasibility study complete for groundwater protection zoning for important/vulnerable groundwater systems</p> <p>Waste disposal permits issued in accordance with latest edition minimum requirements</p> <p>Construction of pollution control works for Grootdraai Dam and Sand-Spruit catchment on schedule</p> <p>Manual for the assessment of impact of land-based activities on water resources developed</p> <p>Revision of 2nd Edition of minimum requirements for waste disposal facilities (auditing, training and operation)</p> <p>Implementation of the Dense Settlements Strategy in identified communities</p> <p>Regulations for water care works developed</p>	<p>Approved by WRFMC</p> <p>Recommendations approved by WRFMC</p> <p>Recommendations approved by WRFMC</p> <p>Approved by Director General</p> <p>Accepted by Local Government</p> <p>Permit register maintained to reflect status of permit issuing</p> <p>Annual review undertaken</p> <p>Approved by WRFMC</p> <p>Approval by WRFMC</p> <p>Reduction of water pollution in identified communities</p> <p>Regulations promulgated</p>	<p>Procedures to develop resource quality objectives harmonised with resource-directed measures procedures</p> <p>Project was initiated, based on the results of previous work by the Water Research Commission</p> <p>Groundwater Reserves determined for all ad hoc licence applications submitted</p> <p>Development of policy for groundwater protection zoning initiated</p> <p>Permit applications processed in accordance with approved national minimum standards</p> <p>Construction work in progress and on schedule</p> <p>The impact of land-based activities in all 19 water management areas has been analysed</p> <p>Preparation of manual initiated</p> <p>Preparation of 3rd Edition in progress</p> <p>New minimum standards developed for auditing, training, and disposal site upgrading</p> <p>Priority areas identified for implementation of strategy</p> <p>Regulations to control works, and for operator skills levels established in terms of the National Water Act</p>

Key Focus Area (as per strategic plan)	Outputs	Service Delivery Indicators	Actual Performance
9 Align staff, stakeholders and general public to a common vision for Integrated Water Resource Management (IWRM) and develop, capacitate and empower them to best practices	<p>Awareness on new developments in IWRM (e.g. climate change, rainfall augmentation, desertification, etc) maintained</p> <p>Implementation of the NWA and related legislation co-ordinated (including alignment with other relevant legislation) and co-ordination across WRM</p> <p>Guidelines for information management in WR studies (carried out under 6.3) tested</p> <p>Water Resource Monitoring Assessment and Information Strategy (WRMAIS) revised and aligned to new needs</p> <p>Framework for addressing historical social impacts of existing dams 50% complete</p> <p>Generic guidelines produced for catchment management strategies</p> <p>Evaluation and development of catchment analysis tools/models to support water resources planning processes</p> <p>Guidelines and standards developed for water resources information and provision of information</p>	<p>Reports approved by WRFMC</p> <p>Achievement of KPIs assessed through Monitoring and Coordination System (MCS)</p> <p>Approved by the WRFMC</p> <p>Approved by WRFMC</p> <p>Development proceeding according to plan</p> <p>Approved by WRFMC</p> <p>Tools being applied</p> <p>Internally applied</p>	<p>Representation on Government and National Climate Change Committees</p> <p>Water-related inputs to SA's National Climate Change Response Strategy (prepared by DEAT as lead agent)</p> <p>Participation in WRC research project into the implications of climate change on water resources</p> <p>No progress on rainfall augmentation or desertification</p> <p>Project to develop framework for coordination initiated</p> <p>Inventory of water resources studies in DWAF initiated</p> <p>Systems Analysis Scoping document was approved by WRFMC</p> <p>Further work pended until information systems governance structures are developed</p> <p>Inception report completed, background information compiled, stakeholders consulted, approaches and methodology developed, finalisation of Framework well-advanced</p> <p>Project to develop generic guidelines initiated</p> <p>Steering committee to evaluate models and tools established</p> <p>No progress: work rescheduled to next period</p>

Key Focus Area (as per strategic plan)	Outputs	Service Delivery Indicators	Actual Performance
9 Align staff, stakeholders and general public to a common vision for Integrated Water Resource Management (IWRM) and develop, capacitate and empower them to best practices	<p>Surface and ground water quantity and quality monitoring systems maintained, upgraded and expanded by 5%</p> <p>New and special integrated water resources monitoring programmes developed as required</p> <p>Information systems upgraded and maintained, and the possibilities to interlink existing systems investigated</p> <p>Comprehensive long-term plan for the development of computerised decision-support systems for water resources planning in place</p> <p>Effective flood and drought management system in place</p> <p>Skills development, mentoring and HRacquisition plan implemented and monitored according to Equity and Black Economic Empowerment (BEE) requirements</p> <p>Capacity building programmes developed for stakeholder empowerment in IWRM</p> <p>Inventory of training programmes compiled</p> <p>RDM and Groundwater training networks in place and operational</p> <p>Framework to guide stakeholders in water resources management developed</p> <p>Informed stakeholder participation in forums, Water User Associations, etc</p>	<p>Increased data available</p> <p>Programmes approved by WRFMC</p> <p>Approved realignment of development plans</p> <p>5 year plan approved</p> <p>Internally applied</p> <p>75% of posts filled</p> <p>Materials developed and courses presented</p> <p>Approved by WRFMC</p> <p>Training material produced</p> <p>Materials produced and disseminated</p> <p>Quality of stakeholder inputs enhanced</p>	<p>Five-year plan for the Resource Quality Monitoring Systems was developed and approved by WRFMC</p> <p>Development of toxicology and radioactivity monitoring systems progressed and on track</p> <p>All systems maintained, some systems upgraded, but interlinking on hold pending development of information system governance model</p> <p>Five-year Water Resources Monitoring Plan developed and approved</p> <p>Pilot system developed and operational in DWAF and National Disaster Management Centre, but further development limited due to capacity constraints</p> <p>Appointment and training of staff in accordance with employment equity requirements</p> <p>Strategy for stakeholder capacitation being developed under the Water Allocation Reform Programme</p> <p>Compilation of inventory in progress</p> <p>RDM and Groundwater training networks operating under the Framework for Education and Training in Water (FETWater)</p> <p>Development of Social Assessment and Development Framework for stakeholder empowerment nearing completion</p> <p>Strategy being developed to promote informed participation in all water management institutions</p>

Key Focus Area (as per strategic plan)	Outputs	Service Delivery Indicators	Actual Performance
15 Promote IWRM in Africa in support of NEDPAD	<p>Limpopo commission established</p> <p>Agreement with Namibia on Lower Orange River Good participation in and support to AMCOW and SADC structures</p> <p>Improved co-operation with developing countries</p> <p>Improved relationships with international and multilateral organisation</p> <p>EU financing agreement in place</p> <p>Ongoing advocacy activity around IWRM to influence international debate</p> <p>G8 support to AMCOW in place</p>	<p>Agreements signed by relevant countries</p> <p>Regional programmes approved and implemented</p> <p>Improved co-operation with developing countries</p> <p>Regular exchange of information</p> <p>Official Development Assistance (ODA) agreements concluded</p> <p>Concepts appear in outcome documents</p> <p>Financing agreements signed</p>	<p>Agreement signed by South Africa, Botswana, Zimbabwe and Mozambique</p> <p>Negotiations towards an agreement in progress with Namibia</p> <p>Participation in ANCOW Inter-ministerial Council</p> <p>Participation in SADC policy formulation</p> <p>Project Manager for SADC Hycos identified but not yet appointed</p> <p>Ministerial visits to China and official visits to China and Cuba</p> <p>Agreement with Cuba being implemented</p> <p>Memorandum of Understanding with China under negotiation</p> <p>Secondment agreement with African Development Bank under negotiation</p> <p>Agreement in place (implemented by Water Services)</p> <p>Effective participation in UN Commission for Sustainable Development 13 and Millennium Project</p> <p>Participation in AMCOW Technical Advisory Committee activities</p>