



annual report

2006/07



science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



Our Vision

To create a prosperous society that derives enduring and equitable benefits from science and technology.

Our Mission

To develop, coordinate and manage a national system of innovation that will bring about maximum human capital, sustainable economic growth and improved quality of life for all.



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“...the Government’s aim is for South Africa to become the global partner of choice for international science collaboration”

Science, technology and innovation are vital to ensure South Africa’s long-term competitiveness in an increasingly knowledge-driven global economy. In all countries, economic activity is shifting towards innovation and knowledge-driven industries, with some developing countries moving up the value chain and challenging the predominance of the developed nations. In this environment, South Africa needs to build on its historical strength in scientific research to exploit new technology-driven and high value-added areas and secure its long-term prosperity in this manner.

There is increasing global competition for scientific excellence, and South Africa’s higher education institutions and public sector research laboratories must be put on a long-term financially sustainable footing if South Africa is to compete effectively. We must also ensure that a robust plan exists for forward-looking management of the science base, so as to enable us to respond swiftly to new and emerging multi-disciplinary research opportunities. With 99,5% of world science being performed outside South Africa, the Government’s aim is for South Africa to become the global partner of choice for international science collaboration.

As such, we have strengthened and enhanced South-South cooperation by fostering partnerships with countries in the southern hemisphere, and our African counterparts in particular. To this end, we are currently spearheading a number of bids to host significant international facilities in our country; within the context of enhancing South Africa and the African continent as a destination of choice for these facilities.

The decision to host the regional offices of the World Association for Industrial and Technical Research Organizations (WAITRO), the International Council for Science (ICS), the Third Component of the International Centre for Genetic Engineering and Biotechnology (ICGEB), and the European and Developing Countries Clinical Trials Partnership (EDCCTP) was underpinned by this principle.

In the same spirit, we are working towards winning the bid to host the Square Kilometre Array (SKA) Radio Telescope in partnership with, and for the benefit of, the entire African continent. This will be the largest radio telescope ever constructed and South Africa has been short-listed together with Australia as a possible host country. A final decision is expected by the end of 2010.

In support of Government’s Accelerated and Shared Growth Initiative for South Africa (AsgiSA), the Department of Science and Technology (DST) is actively engaging the spheres of science and technology (S&T) to influence and enhance our activities in these fields to the greater benefit of our economy.



Mosibudi Mangena
Minister
Department of Science and Technology



Our ability to gain an understanding and measure the results of the National System of Innovation (NSI) has improved significantly over the past few years. The 2004/05 National Research and Development Survey results indicated that business, universities, science councils, Government research institutes and Non-Governmental Organisations (NGOs) spent R12 billion on research and development (R&D) – the equivalent of 0,87% of Gross Domestic Product (GDP). As our business sector increasingly engages in innovation and R&D, the returns will invariably contribute to socio-economic growth, but we need to do more to increase the responsiveness of our science base to the needs of the economy.

In order to encourage further R&D investments, the DST, last year, worked in close collaboration with National Treasury and the South African Revenue Services (SARS) to introduce enhanced tax incentives for R&D.

However, we note with concern that few business leaders appear to be aware of the new incentives, and therefore urge this sector to examine its production processes carefully, and appropriately identify its R&D activities so as to further increase its investments. The target of spending 1% of GDP on R&D by the 2008/09 reporting period is now well within reach.

As the custodians of the NSI, we recognise that our investment decisions can be enhanced with a strong information base pertaining to research activities funded from the public purse.

Further to the aforementioned, the DST is in the process of setting up a Research Information Management System (RIMS) that will serve to gather and make available information on research activities conducted within science councils and other government research agencies. This will strengthen our capacity to monitor the performance of S&T innovations within the boundaries of our country, thus providing a rigorous long-term planning platform for the NSI.

In its quest for research excellence, the DST is also committed to the provision of resources and cooperating with universities and the National Research Foundation (NRF) to use a licensed information technology platform with the purpose of gathering and making available information on research activities within tertiary education institutions.

The greatest portion of the Department's budget during the year under review was allocated to our Human Capital Development Programme, which aims to address the adequate development and renewal of human scientific resources. This allotment reinforces our current Programmes, which include, but are not limited to, the Research Professional Development Programme (which targets young Science, Engineering and Technology (SET) masters' and doctoral students); the Post-Doctoral Fellowship Programme; the Centres of Excellence Programme; and the Research Chairs Initiative, which has been consolidated with the announcement of the first group of scientists appointed as University Research Chairs in December 2006.



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During the year under review we have seen the first 21 scientists in different fields assume their duties, and this initiative has been well received by all role players. The aim is to create 56 research chairs by 2008, and 210 by 2010.

In addition, the DST allocation focuses on providing modern research facilities and infrastructure for use by the research community. These funds have been applied to acquire or upgrade instrumentation for national research institutions, and to provide infrastructure for research capacity development.

Working with the National Advisory Council on Innovation (NACI), the DST has produced a comprehensive report on the infrastructure requirements for both science and innovation, which now forms the basis of a long-term infrastructure plan for S&T.

Other infrastructure projects that we are strengthening include the Centre for High Performance Computing (CHPC), Nanotechnology Characterisation Centres, Astronomy and Space Science. With regard to nanotechnology and nanoscience, we are in the process of creating physical infrastructure that will enable world-class basic research, exploration of applications, development of new industries, and the commercialisation of innovations.

Our bid to host both the SKA and the construction of the Karoo Array Telescope (KAT) is expected to provide the means to train scientists and engineers to acquire relevant capabilities and skills. Initially, in our bid for the SKA, we intended to be considered only as a site. However, during the bid process, it soon became clear that we could play a far greater role in the development of the SKA technology and its science.





Recognising this, the DST has assembled an outstanding team to build the KAT, and further develop radio astronomy in South Africa. This in turn has, over a short period of time, ushered us into a leading role in the global SKA development.

One of the welcome results of this mission-driven innovation has been a steady attraction of key personnel back to South Africa; a reaffirmation that S&T in our country is on the right track.

The KAT team has already been recognised for its competence, and is continuously being called upon to assist and advise the International SKA Project Office on system engineering, costing and other key technology areas. This team now seems to be playing a leading role in the development of digital signal processing for the telescope and software development, in conjunction with researchers affiliated to the United Kingdom (UK), Holland, Australia and the United States of America (USA). In partnership with the industry, the KAT team is also assisting with the development of innovative telescope antennas, using composites.

In support of the Astronomy Programme, we will be submitting the Astronomy Geographic Advantage Bill to Parliament in the next financial year, which will enable the introduction of measures to protect sensitive astronomy sites and maintain South Africa's geographic advantage.

During the year under review, the DST liaised with various space players in the country to formulate the framework for the establishment of the South African Space Agency. Legislation aimed at the creation of the South African Space Agency is being drafted with the aim of presenting it to Parliament later in the next financial year.

During the year under review, the construction of the low-earth observation satellite, SumbandilaSat, was completed on time and it was handed over to the Department in November. We intend to build on the success of this project by continuing to support efforts within the space S&T arena.

This year, nine black engineering interns will be completing the training model satellite.

Simultaneously, we have commissioned the technology development of a new sensor, which we expect to use in a future remote sensing satellite. During the last five years, we have made significant contributions to the fields of biotechnology, and Indigenous Knowledge Systems (IKS), and we are looking to harness investments to augment development in these areas.

Commonly, the results of biotechnology investments have long lead-times (often up to 15 years), yet some success stories resulting from the investments and interventions made by the biotechnology institutions are already being reported. Our goal is to expand the country's biotechnology platform and to develop a bio-economy base. Our plans were given a major boost at the end of 2006, ICGEB chose to locate its African component in Cape Town.

This organisation currently has components in Trieste, Italy, and New Delhi, India. The new Cape Town component, which we intend launching before the end of the next financial year, will initially focus on infectious diseases, but its remit is expected to expand to include fields such as agricultural biotechnology.

Since the IKS Policy was launched in 2004, we have achieved a number of successes on key cross-cutting issues, not least the timely establishment of a Ministerial Advisory Committee, which will assist in terms of the establishment of IKS chairs to be located within higher education institutions, based on nationally prioritised areas, such as traditional medicine, knowledge studies and indigenous food security.

During March, my Department and the Ministry of Science and Technology of Zambia successfully hosted the Second South African Development Community (SADC) Workshop on IKS Policy Development in the region. Emanating from this

FOREWORD

workshop were a number of compelling recommendations for member states, *inter alia* the need to harmonise the region's policy framework within the next two years. This will represent another healthy step forward on our chosen path.

In the next financial year, we will commence with the development of IKS databases following an audit of those residing at various institutions. It is also envisaged that a hardware multimedia recordal system to capture synchrotextual documentation, such as the registration of holders of indigenous knowledge, interviews and satellite information linkages, will be developed.

In this way, the IKS Centres at local level will serve as vehicles by means of which the Indigenous Knowledge wealth located in our various communities can be captured. The first pilot IKS Centre is being established at the University of Zululand and will aim to support the Medical Research Council's (MRC) IKS Laboratory on traditional medicines.

It should be noted that that all of the DST's activities at all times include initiatives to deal with poverty and its impact on people's lives. We continue to undertake a number of projects in the fields of job creation and poverty alleviation using established and effective technology platforms. These projects have demonstrated that positive results can be achieved by combining technology with the entrepreneurial skills of our

people. However, we are concerned that not enough of our research results are being turned into products.

During the next financial year we will be presenting to Cabinet for approval, an entity we hope to name the Technological Innovation Agency (TIA).

The aforementioned will be a public institution that will stimulate the development of technology enterprises in the South African system by utilising the talent and skills within that knowledge base to develop products, services and processes, and to create an adequate support environment for commercialisation.

On behalf of the DST, I once again wish to congratulate Professor Okkie de Jager and his team for winning the European Union's prestigious Descartes Prize for Research for 2006. Professor De Jager and his team have put South Africa on the map through their ground-breaking research on the Milky Way Galaxy using our High-Energy Stereoscopic System (HESS).

In conclusion, I am proud of what has been achieved over the past year, and of the way in which the DST has positioned itself to face the exciting challenges ahead.



MOSIBUDI MANGENA

Minister of Science and Technology



The significant increase in the DST's budget during the year under review reflects the South African Government's recognition of the importance of S&T. It would be impossible for us to achieve our growth targets and ensure a life of dignity and equal worth for all our citizens, without applying the best of our scientific expertise towards finding solutions to the critical challenges facing us.

In an increasingly competitive world, economic development has to be knowledge-driven. The knowledge we generate has to provide answers to everyday needs in areas such as health, energy, food security, water and sanitation. We therefore have to be guided by excellence in science to protect our country's rich biodiversity.

Improving the quality of life of our people is our ultimate goal. During the year under review, DST interventions have illustrated our commitment to economic growth and sustainable development.

HEALTH

South Africa's challenges in the health sphere can never be narrowed down to a single disease, but few would deny that our largest single challenge today remains the Human Immunodeficiency Virus (HIV) and the Acquired Immunodeficiency Syndrome (Aids) pandemic. In support of the **Biotechnology Strategy**, the DST is investing in a number of biotechnology ventures that have the potential to make a major contribution to our fight against Aids, and we may be on the verge of significant breakthroughs.

On the prevention side, LIFE*lab*, one of our Biotechnology Regional Innovation Centres (BRICs), is supporting research on microbicide gels that have the potential to be far more effective than condoms in preventing HIV-infection in women.

Furthermore, the Institute of Diagnostic Research (IDR) is developing novel products and tools for the diagnosis of HIV and malaria; and perhaps, most exciting of all; we are investing in the development of novel treatments for HIV/Aids. A company, Elevation Biotech, is currently applying discoveries made by our own researchers to develop peptides as HIV entry inhibitors.

Early laboratory results indicate that the scientific principles applied are sound. Discoveries such as these have the potential not only to offer more effective treatment than that which is currently available, but also to position South Africa as a key player within the global pharmaceutical market.

“Our scientists have developed a unique nano-carrier system, comprising very small capsules which find their way right to the target site, then releasing the drugs in a slow, steady manner”



Derek Hanekom
Deputy Minister
Department of Science and Technology

Our vision for the future is that we will see the complete spectrum of HIV prevention, diagnosis, management and treatment using products developed, produced and supplied by South African companies.

The work conducted by the South African Aids Vaccine Initiative (SAAVI), in collaboration with key national and international partners, to produce an affordable, effective and locally relevant Aids vaccine, is equally important. Without an effective vaccine, we are unlikely to win the ongoing battle against Aids.

Tuberculosis (TB) poses another major health challenge to our country – approximately 250 000 new cases are diagnosed annually. Although treatment is currently available, patients have to take up to four anti-TB drugs daily. These drugs have toxic side-effects, and their poor solubility often results in degradation prior to the drugs reaching the target site. Hence, treatment failure remains at unacceptably high levels.

Nanotechnology presents a possible solution to this problem. Our scientists have developed a unique nano-carrier system, comprising very small capsules which find their way right to the target site, releasing the drugs in a slow, steady manner. Potentially, this unique nanotechnology drug delivery system will allow for the administration of drugs once in seven days, instead of daily, and due to the specific site targeting will also have fewer toxic side-effects. Through the application of this advanced technology, a far greater treatment success rate could be achieved.

INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

ICT is identified, alongside Biotechnology, as one of the key platforms of our R&D strategy and has an equally important role to play. Telemedicine is one example of the manner in which information technology could be used to provide and support healthcare, especially in rural clinics without doctors or specialist advice. Through the use of telemedicine, patients will be able to obtain speedier and improved diagnosis, and have access to specialised care closer to their homes, thus avoiding time off work and reducing travel costs.

The Department is currently supporting the Primary Healthcare Telemedicine Workstation project in Grabouw, which is already demonstrating that all these benefits can be achieved through the use of information technology in a primary healthcare clinic. This clinic is directly linked to the University of Stellenbosch and allows for consultation and diagnosis in various specialities. The next step in the implementation plan will be the installation of ten telemedicine workstations in KwaZulu-Natal over the next two years.

Impressive advances are being made in ICT. The new CHPC was officially launched by Minister Mangena during the year under review. This centre will advance our research capabilities in areas such as advanced manufacturing, space science and research into infectious diseases.

“The knowledge of our common origins strengthens our belief in the equality of all human beings”

The *Digital Doorway* project has proved to be an effective tool in bridging the digital divide in our country’s youth. We are proud to announce that we have now installed 74 units countrywide, and a further 95 will be installed by September 2007. This project is aimed at allowing thousands of young people, who have no access to computers in their schools or homes, the opportunity to develop computer skills and to access valuable information.

The *National Accessibility Portal* project at the Meraka Institute is performing outstanding work to address the marginalisation of people with disabilities through ICT. Perhaps the greatest strength of this project lies in the fact that many of the researchers are people who also live with disabilities. Among other things, they have developed a portable information and communication device for visually impaired people which has inbuilt speech technologies and access to the Internet and audio books.

They have also designed a highly customised picture-based tool that provides an alternative communication mechanism to people with physical disabilities and to those who cannot talk. 27 specially equipped centres will be established over the next two years. The DST firmly believes that the four million South Africans living with disabilities deserve a life of dignity, and we are channeling all our efforts into realising this objective.

ENERGY

In addition to the achievement of our growth targets, there are many other issues which are essential to enhancing the quality of life of all our people. For instance, without a reliable supply of energy our economy cannot grow, and every household requires some form of energy in order to perform the most basic of activities, such as cooking food and heating water.

The *White Paper on Clean and Renewable Energy* commits us to producing 5% of the country’s energy supply from renewable energy sources by 2013. One way of meeting this target, and simultaneously dealing with the electricity infrastructure pressures, is by means of more energy efficient houses that use free energy generated by the sun.

The DST has entered into a partnership with the Overstrand Municipality and the Cape Town Grail Centre Trust, in a sustainable development project involving the construction of 611 low-cost houses that will use better insulation



building materials, and will have solar water heaters installed. The project is also looking at ways of retaining stormwater to irrigate the local school sports field, and will pilot a novel reed bed sewage treatment plant. Projects of this nature could provide useful lessons and technologies to support the Department of Housing in its shift towards environmentally sustainable housing projects.

In our tireless quest for energy solutions, our work on Hydrogen Fuel Cells continues. A draft strategy document has been finalised in this regard and will soon be submitted to Cabinet for approval.

WATER

Our goal is to halve South Africa's water backlog by 2008. However, given the fact that so many people live in scattered and remote rural areas, the delivery of piped water to every household is extremely difficult to achieve. Many rural people, mostly women with multiple responsibilities, have to walk long distances to fetch water from polluted rivers.

However, a simple household water treatment system known as **AmaDrum** has been developed by the Council for Scientific and Industrial Research (CSIR) to address this challenge. This product is a plastic drum that both disinfects and filters the water. The sole manufacturing license was given to a small business in the Eastern Cape. They were presented with a drum-moulding machine and a hundred drums to sell in order to get the business started. Despite this intervention, only 750 drums have been manufactured, of which less than a half have been distributed since the project was initiated in 2001.

Nevertheless, we remain confident that our scientists will resolve this issue in order to combat the extreme hardships millions of people across the continent face on a daily basis. A life without clean drinking water is certainly not a life of dignity and equal worth.

AFRICAN ORIGINS

South Africa's fossil and human genetic heritage is remarkable. No other country in the world can boast the oldest evidence of life on earth dating back more than three billion years; the oldest multi-cellular animals; the most primitive land-living plants; the most distant ancestors of dinosaurs; and, together with several other African countries, a notable record of human origins and achievements over the last eight million years.

Palaeoscience work conducted on the African continent – in Ethiopia, Kenya, South Africa and other countries – has made a spectacular contribution to the world's knowledge of the origins of humankind. All indications are that the human species evolved on the African continent. Human migration commenced about 60 000 years ago, and finally resulted in the occupation of virtually all corners of the planet; however, it all started in Africa.

The rich fossil sites discovered in the **Cradle of Humankind** bear testimony to our early ancestry, and the DST proudly supports the world-acclaimed work performed by South African scientists in this field. The knowledge of our common origins strengthens our belief in the equality of all human beings: We are one human species, of equal worth, with enormous common challenges which need to be confronted in unison, or we will surely perish together.

DEREK HANEKOM

Deputy Minister:

Department of Science and Technology

It is my honour and privilege to submit the 2006/07 Annual Report of the DST for the first full year in which I have been Director-General, in accordance with the Public Finance Management Act (PFMA).

The 2006/07 financial year has been a challenging, yet gratifying experience in the DST, as most of the strategic objectives developed after robust engagement with management and staff on the strategic direction of the Department have been realised. In view of the vast strides that have been made by South Africa in the area of exploration and the use of outer space, we have decided that our Annual Report, this year, should reflect a space theme.

HIGHLIGHTS

Highlights during the year included the Russia-SA Space Agreement, which was signed on 5 September 2006. The objective of this agreement was to create an appropriate organisational and legal framework for mutually beneficial cooperation in specific areas of exploration and use of outer space, as well as practical application of space equipment and technologies for peaceful purposes.

Furthermore, South Africa capitalised on an existing knowledge base to develop a micro satellite, SumbandilaSat. The satellite design and construction was completed during December 2006, as planned. The images yielded by the satellite will be used in various applications which have direct benefits to societies, such as flood and fire disaster management; enhancing food security through crop yield estimation; ensuring better human and animal health through enabling the prediction of the outbreaks of diseases; better monitoring of land cover and use; as well as improved capabilities for water resource management.

As part of this programme, a school competition was held for high school learners to name the satellite. This was also a mechanism to create awareness of the importance of space S&T. In addition, post-graduate training in space S&T related areas was also supported at various universities in the country.

As a follow-up to the approval by Cabinet for the establishment of the Space Agency, the first draft of the Space Agency Business Case was completed and will be submitted to National Treasury and the Department of Public Service and Administration during the new financial year. The related draft Bill has also been attended to.

“The images yielded by the satellite will be used in various applications which have direct benefits to societies...”



Dr Phil Mjwara
Director-General
Department of Science and Technology



Other developments included the establishment of a new Remote Sensing Data Management System by the CSIR. This geo-processing chain will be able to process 50% more remote sensing images received from numerous earth observation satellites orbiting the earth. Remote sensing specialists commenced the technical implementation of this task, from the development of the necessary processing models to final hardware architecture, in September 2006.

The complex technical learning for the team was of tremendous value to achieve the final implementation of the envisaged South African Earth Observation System (SAEOS) architecture, as envisaged by the DST.

As part of a knowledge-sharing exercise, a new multi-government licence agreement will afford South Africa's government departments, research institutions and academia three years of direct, open access to detailed information from the Satellite Pour l'Observation de la Terre (SPOT) constellation of five earth observation satellites.

The agreement with SPOT Image will run until March 2009. Applications of data received include spatial analysis of land use, particularly informal settlements; monitoring of crops and yields to assess levels of food security; and alignment of land-use classes with geographically-coded crime data to illustrate the spatial relationship between crime incidents and changes in the environment.

CHALLENGES

Research infrastructure has been identified as an essential component for attaining the vision of the NSI. Without access to state-of-the-art infrastructure, South Africa will not be able to compete internationally in its chosen nation R&D priorities in science, technology and innovation.

Assessments of the situation with regard to research equipment indicate that South Africa's infrastructure is ageing at an alarming rate in most disciplines and inhibiting South African researchers from competing internationally.

Investment in S&T infrastructure should therefore be viewed as an integral part of national infrastructural spending, and should, in the long term, cater for support of the existing infrastructure while building the base for future innovations. Such allocations should be consistent across the system and maintain a long-term development vision.

The systematic implementation of the identified infrastructure requirements would enable Government to elevate science, technology and innovation in national priority areas and promote international competitiveness. This would undoubtedly also encourage the development of products and services that are attractive to world markets.

We also face a challenge of the current sluggish rate of replacement of the scientific workforce and the relatively low levels of participation of women. South Africa can only meet

its growth and development targets if it addresses the barriers to more productive participation of women and black people in the scientific and engineering workforce. More needs to be done to address this challenge.

S&T ACROSS GOVERNMENT

I was fortunate to launch the Knowledge Economy Forum (KEF) on 13 February 2007. This forum comprises 19 S&T Managers from various government departments. Its objectives are to provide a platform to discuss knowledge economy policy priorities for funding and implementation to the benefit of all sectors; identify key performance indicators and discuss performance of the NSI as a whole, as well as focusing on specific sub-systems, e.g. the National Agricultural Research System (NARS), the National Health Research System (NHRS), etc; and to provide a platform for government departments to share experiences, best practices and strategies with a view to suggesting interventions and addressing cross-cutting issues. Other initiatives in support of Government's long-term goals are detailed in other sections of the Annual Report.

FUTURE OUTLOOK

The DST is currently spearheading a project to develop an RIMS that will capture data and report on research inputs, outputs and processes of South African research and higher education institutions. The DST is also liaising with South African universities to implement a similar system for research activities and funding for the higher education community. This will enable monitoring of S&T capacity and research productivity in the higher education sector.

During the year under review we have for the first time been involved in the development of six pieces of legislation that are due to be tabled before Parliament for consideration during the next financial year. The legislations are designed to create an innovation-friendly regulatory environment to align

the objectives of our science institutions with research and development strategies of the Government, as outlined in the 1996 White Paper on Science and Technology and the National Research and Development Strategy (NRDS) approved by Cabinet in July 2002.

Priorities over the coming year include:

- Addressing the failure of the NSI to commercialise the results of scientific research;
- Developing a better understanding of supply and demand for SET skills to inform future policy;
- Addressing our country's inadequate production (in both a qualitative and quantitative sense) of knowledge workers capable of building a globally competitive economy;
- Continuing to work with business on improving private sector investment in R&D;
- Advising Cabinet on the overall health of S&T in Government, and monitoring research expenditure and innovation in industry; and
- Developing new mechanisms to monitor important indicators such as patents, technology-trade mix, sector performance and technology balance of payments to inform future policy.


ACKNOWLEDGEMENTS

I wish to extend my sincere gratitude to Minister Mosibudi Mangena, and Deputy Minister Derek Hanekom, for their commitment to the DST and its vision. I would also like to thank my management team and staff for their unstinting dedication and passion in promoting the greater cause of S&T.



DR PHIL MJWARA

Director-General



STRUCTURAL CHANGES

Upon approval by the Minister of Science and Technology and the Minister of Public Service and Administration, the new DST structure was implemented with effect from 01 October 2006. This structure was informed by the Department's strategic objectives and long-term priorities pertaining to goals which need to be realised by the NSI over the next 10 years. In addition, the framework was largely determined by the mapping analysis which focused on the following aspects:

- Infrastructure and human capital as a basis for this exercise;
- Research/innovation aimed at knowledge transformation, embodiment, demonstration, commercialisation and transfer within often competitive (sometimes focused) programmes; and
- "Frontier layer/innovation later" focus areas in accordance with which all components should be focused on

ongoing participation in the knowledge economy/global knowledge public infrastructure – mainly narrowed down to CHPC, Space, Health Innovation and SAAVI.

With these principles in mind, three main programmes namely (i) R&D Innovation, (ii) Human Capital and Knowledge Systems and (iii) Socio-Economic Partnerships were created.

In order to strengthen the operations of the Department, a post of Senior Programme Manager was created. The primary purpose of this position is to facilitate synergy and monitor the progress of the organisation's strategy and operations. The Senior Programme Manager thus assumes overall responsibility for planning, monitoring and integrating the day-to-day operations within the organisation, to ensure an environment that promotes performance improvement and organisational efficiency.

STRUCTURAL CHANGES

STRUCTURE DURING THE REPORTING PERIOD



Mosibudi Mangena
Minister of Science and Technology



Derek Hanekom
Deputy Minister of Science and Technology



Phil Mjwara
Director-General



Programme 1
Corporate Services and
Governance

Peter Pedlar
Group Executive



Programme 2
Science and Technology
Expert Services

Dr Adi Paterson
Group Executive



Programme 3
International Cooperation
and Resources

Dhesigen Naidoo
Group Executive



Programme 4
Frontier Science
and Technology

Dr Bethuel Sehlapelo
Group Executive



Programme 5
Government Sector
Programmes and Coordination

Marjorie Pyoos
Group Executive

NEW STRUCTURE EFFECTIVE 1 April 2007



Mosibudi Mangena
Minister of Science and Technology



Derek Hanekom
Deputy Minister of Science and Technology



Phil Mjwara
Director-General



Daniel Moagi
Senior Programme Manager



Programme 1
Corporate Services and
Governance

Dr Anusha Lucen
Group Executive



Programme 2
Research and Development
and Innovation

Dr Boni Mehlomakhulu
Group Executive



Programme 3
International Cooperation
and Resources

Dhesigen Naidoo
Group Executive



Programme 4
Human Capital and
Knowledge Systems

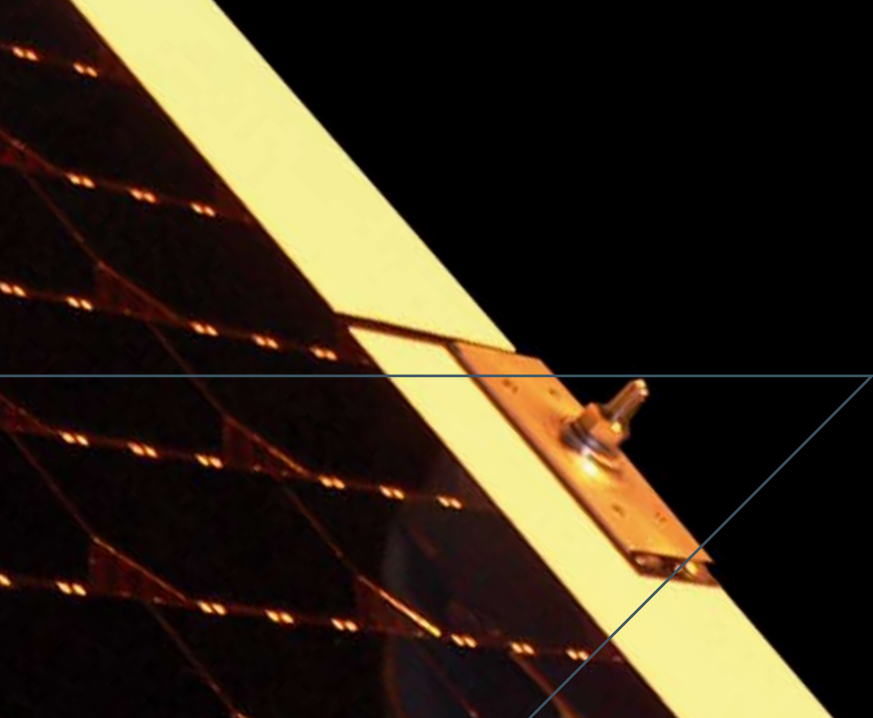
Dr Bethuel Sehlapelo
Group Executive



Programme 5
Socio-Economic Partnership

Marjorie Pyoos
Group Executive





PROGRAMME I

CORPORATE SERVICES AND GOVERNANCE

PROGRAMME I

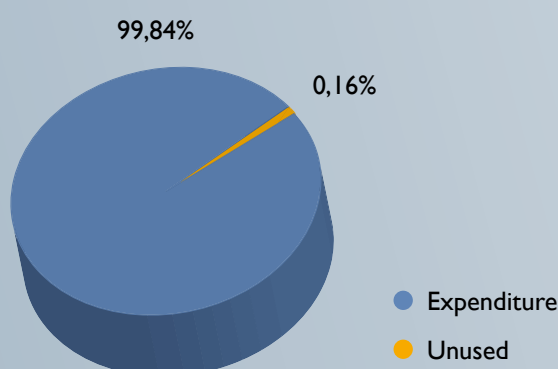
CORPORATE SERVICES AND GOVERNANCE

This Programme conducts the overall management of the DST, provides core support services and manages the governance and reporting systems. Core support services include communications, information technology, HR management, legal services and internal auditing. The Programme ensures that funded S&T institutions comply with good corporate governance practices and are aligned with the strategic focus of the NSI. It also monitors and evaluates the Science Councils.

Partnerships between the DST, science communicators and the media have improved markedly during the reporting period, specifically around targeted campaigns and events relating to our youth, international S&T collaboration, and ICT; which, in turn, also pointed to increased media attention pertaining to these issues.

Media monitoring and analysis conducted within the DST signified consistency in terms of coverage, with the latter being largely positive in tenor during the early months of 2007.

Highlights during the year under review



- Unqualified audit
- Expenditure of 99,84% of DST's budget
- Development of six pieces of legislation

COMMUNICATIONS

The year under review saw the development of sound relations with the broadcast media (including national television, radio and community radio), resulting in increased coverage on S&T related activities, as well as increased online media coverage (including *Engineering News*, *SA Goodnews* and *Mining Weekly*). This was mainly achieved by means of content-driven media discourse on S&T issues and themes.

Other effective channels of communication included participation in S&T related events and exhibitions on a regional, national and international basis. DST officials were able to interact directly with audiences and the dissemination of information was effectively supported by the development of targeted information products/promotional materials which were distributed widely during these occasions.



THE PHILLIP TOBIAS LECTURE AWARD

It was particularly apt that the biennial *Lecture on Science and Science Policy in South Africa* was launched by Minister Mosibudi Mangena in 2004; just as South Africa was celebrating a decade of democracy. This innovation was also appropriately named after Professor Phillip Tobias in recognition of his world-renowned scholarly contribution to the field of science. Prominent industry leaders, as well as science representatives from governments around the world have since been invited as keynote speakers to this event, which also boasts the *Phillip Tobias Lecture Award*. This prestigious award was bestowed on the keynote speaker, Professor Sydney Brenner, in 2004.

Following an invitation by President Thabo Mbeki, India's President Abdul Kalam delivered the second *Phillip Tobias Lecture* during the year under review. This lecture was presented via a multimedia broadcast from Rashtrapati Bhavan (New Delhi, India) to the Sandton Convention Centre during INSITE 2006.

President Kalam called for greater cooperation between scientists of South Africa and India in meeting the challenges of development in the field of science. He also urged scientists to participate in the Pan African e-Network and the World Knowledge Platform.

President Kalam further elaborated on Indo-African cooperation in respect of capacity-building in the spheres of education and healthcare by means of tele-education and telemedicine technology, with particular focus on the African continent. This programme, announced by him during his visit to South Africa in 2004, is envisaged to be completed during 2007.

President Kalam is exceptionally passionate about healthcare and referred to the so-called "three-dimensional lifestyle intervention", which focuses on vegetarianism, aerobic exercise and meditation.



HUMAN RESOURCES (HR)

Competency Profiling and Skills Audit Project

During the reporting period, the DST commissioned and implemented the Competency Profiling and Skills Audit project. The project is considered key in identifying skills, competencies, knowledge and attributes critical for the Department to give effect to its mandate, as well as to ensure that training and development interventions are strategically aligned to the competency requirements of the DST.

The outcomes of the project are applicable to a vast variety of HR processes ranging from recruitment, selection, training, career planning and succession planning.

DST/NRF Internship Programme

The DST, in partnership with the NRF, jointly managed and implemented an internship programme during the 2006/07 financial year. The objectives of the internship programme are far-reaching and critical in responding to the long-term objectives of the NSI.

The internship programme involves the recruitment, placement and training of interns and aims to increase the pool of HR available to the science system; bridging the skills gap by means of skills transfer, on-the-job training and mentoring of those graduates holding qualifications classified as critical and scarce, as well as building vital workplace competencies in the SET environment.

Interns have since been gaining employment within the SET sectors at a more rapid pace. In addition, a significant number of interns have registered their interest in continuing with post-graduate studies.

“Interns have since been gaining employment within the SET sectors at a more rapid pace”

Management Development

A need for structured training and development initiatives aimed at addressing the Department’s management/leadership competency requirements was identified during the year under review. To this end, cohorts of DST employees were enrolled in National Management Development Programmes (such as the Emerging Management Development Programme and Advanced Management Development) with the South African Management Development Institute (SAMDI).



Management development is vital in ensuring that the Department's strategic staff members are adequately empowered to assume management positions, as well as recognising that success in management/leadership functions requires complex managerial skills, knowledge and attributes.

The National Management Development Programmes have since become compulsory. In addition to the aforementioned, the strategic objectives of these programmes are aimed at:

- Improving the performance of existing managers and new entrants across all management levels;
- Providing opportunities for career enhancement and growth; and
- Ensuring the provision of management succession.

Guidelines for Management Development Programmes have been drafted and submitted to the relevant structures for consultation and discussion.



PROGRAMME I

CORPORATE SERVICES AND GOVERNANCE

Employee Assistance Programme (EAP)

The DST uses various media to increase health and wellness awareness by creating avenues for employees to participate in health risk screenings, such as blood pressure, cholesterol, glucose and HIV/Aids testing. Employees are also exposed to various relaxation and stress management techniques.

During the reporting period, three health risk sessions were conducted and one session was extended to family members in order to raise awareness pertaining to issues of health and wellness within the family context.

The DST also conducted information sessions to educate employees on the following topics:

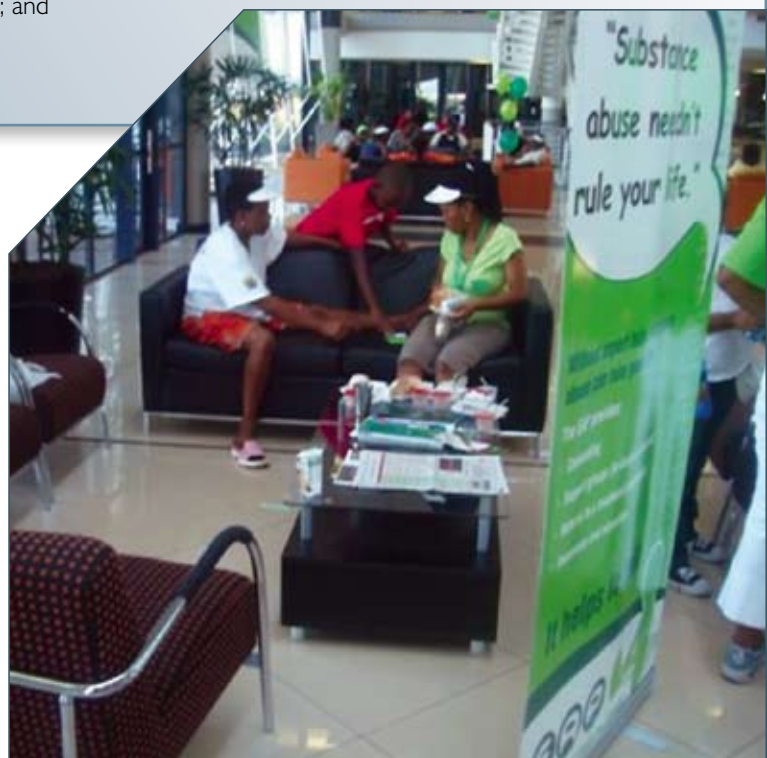
- Financial management, which involved personal consultations with a financial advisor;
- Eye-care;
- Stress management;
- HIV/Aids;
- Ergonomics and individual consultations on workstation set-up; and
- Nutrition and healthy diets in a 24/7 world.

GOVERNANCE AND INSTITUTIONAL PERFORMANCE

The year under review saw the development of a number of key initiatives to ensure that sound governance protocols are in place and that the performance of the science, engineering and technology institutions (SETIs) are monitored and evaluated on an ongoing basis. Said initiatives included the following:

Shareholder Compacts signed with all institutions reporting to the DST

These Compacts serve as formal performance agreements between the Minister and the Chairpersons of the Boards of the Science Councils. The Shareholder Compact reflects the expectations of each party as expressed in terms of outputs and outcomes required. During the period under review, each Council's performance was assessed on the basis of their Compact.





Completion of Synthesis Review of SETIs

This report represents one of the strategic initiatives by the DST to reform the governance and management structures of government-funded S&T performing institutions benchmarked against international best practice. The DST received the draft review report during the period under review, following which it was presented to the Minister, Director-General and Group Executives of the DST, the Chief Executive Officers of the SETIs, the Chairpersons' Forum and the Chief Financial Officers' Forum.

The draft report was also used as a source of information for the survey of the *Organization for Economic Cooperation and Development* of South Africa's NSI.

Development of Policy on Governance Standards for SETIs

The NRDS highlighted the need for a strategic approach to the management of the state-funded portion of South Africa's S&T system. The *New Strategic Management Model* was formulated in response to this strategy. One of the key prerequisites for implementation was the development of the *Policy on Governance Standards for SETIs*. The latter was developed and finalised in consultation with the SETIs. The policy seeks to foster a consistent and coherent system of governance across all SETIs.

Establishment of Chairpersons', Chief Executive Officers' and Chief Financial Officers' Forums

The *Policy on Governance Standards for SETIs* calls for increased interaction between the DST and the various Science Councils. To this end, three forums were established, i.e. the Chairpersons' Forum, the Chief Executive Officers' Forum and the Chief Financial Officers' Forum. Draft terms

of reference were developed and tabled at the first meeting of every Forum. Said forums successfully completed their first meetings during the reporting cycle.

Boards Appointed and Vacancies Filled

During the year under review, the Minister appointed new Councils for the Academy of Science of South Africa (ASSAf) for a two-year term effective from 1 November 2006 and the Africa Institute of South Africa (AISA) for a three-year term, effective from 1 January 2007. Prof. R Crewe was elected as President of ASSAf and Prof. N Ogude was appointed as Chair of the AISA Council. The AISA inducted new members to the Board on 13 March 2007.

DST representatives were appointed to the Boards of the National Health and Laboratory Services (NHLS), Mintek, South African Environmental Observation Network (SAEON), and the Council for Space Affairs.

CEO Appointments

The NRF appointed a new CEO, Prof. Mangaliso, on 1 September 2006. Prof. B Soobrayan was appointed as the Acting CEO of AISA for a period of four months effective from 2 February 2007. The AISA Council has initiated a process for the appointment of a new CEO.

LEGISLATIVE DEVELOPMENT

The DST developed six pieces of legislation during the 2006/07 financial year. Cabinet approved the Human Sciences Research Council (HSRC) Bill, which replaces the HSRC Act (1968), and the Astronomy Geographic Advantage Bill during this reporting period.

“The Astronomy Geographic Advantage Bill affords the Minister of Science and Technology the power to declare Astronomy Advantage Areas in order to ensure that large-scale and globally important astronomy facilities are protected from uncontrolled development and potential interferences to research activities in this field”

The HSRC Bill will henceforth align HSRC objectives with research and development strategies of the Government of the Republic of South Africa, as outlined in the *1996 White Paper on Science and Technology* and the *National Research and Development Strategy* (NRDS) approved by Cabinet in July 2002.

The Astronomy Geographic Advantage Bill affords the Minister of Science and Technology the power to declare Astronomy Advantage Areas in order to ensure that large-scale and globally important astronomy facilities are protected from uncontrolled development and potential interferences to research activities in this field.

These Bills are due to be tabled before Parliament for consideration during the next financial year. Cabinet also approved the Science and Technology General Laws Amendment Bill which was submitted to Parliament for tabling. The Bill incorporates amendments to the National Research Foundation Act (Act No. 23 of 1998), the Africa Institute of South Africa Act (Act No. 68 of 2001), the South African National Scientific Professions Act (Act No. 27 of 2003), the Academy of Sciences of South Africa Act (Act No. 67 of 2001), and the Scientific Research Council Act (Act No. 46 of 1988).

The Intellectual Property from Publicly Financed Research Bill, Technology Innovation Agency Bill, and the National Space Agency Bill, have been drafted and will be submitted to Cabinet for approval in the next financial year. The object of the IP Bill is to create a proper framework for the effective management of Intellectual Property arising from publicly financed research.

The Technology Innovation Agency Bill provides for the establishment of the TIA as a new public entity to stimulate and intensify innovation and inventions in order to improve economic growth, as well as enhance the quality of life of all South Africans by developing and exploiting technological innovations and inventions and creating an enabling environment within which these could be commercialised.

The NSA Bill provides for the establishment of the NSA as a new public entity aimed at promoting the peaceful use of outer space; supporting the creation of an environment conducive to industrial development in space technologies; fostering research in astronomy, earth observation, communications, navigation and space physics; advancing scientific, engineering and technological competencies and capabilities through human capital development and outreach programmes; and fostering international cooperation in space-related activities.



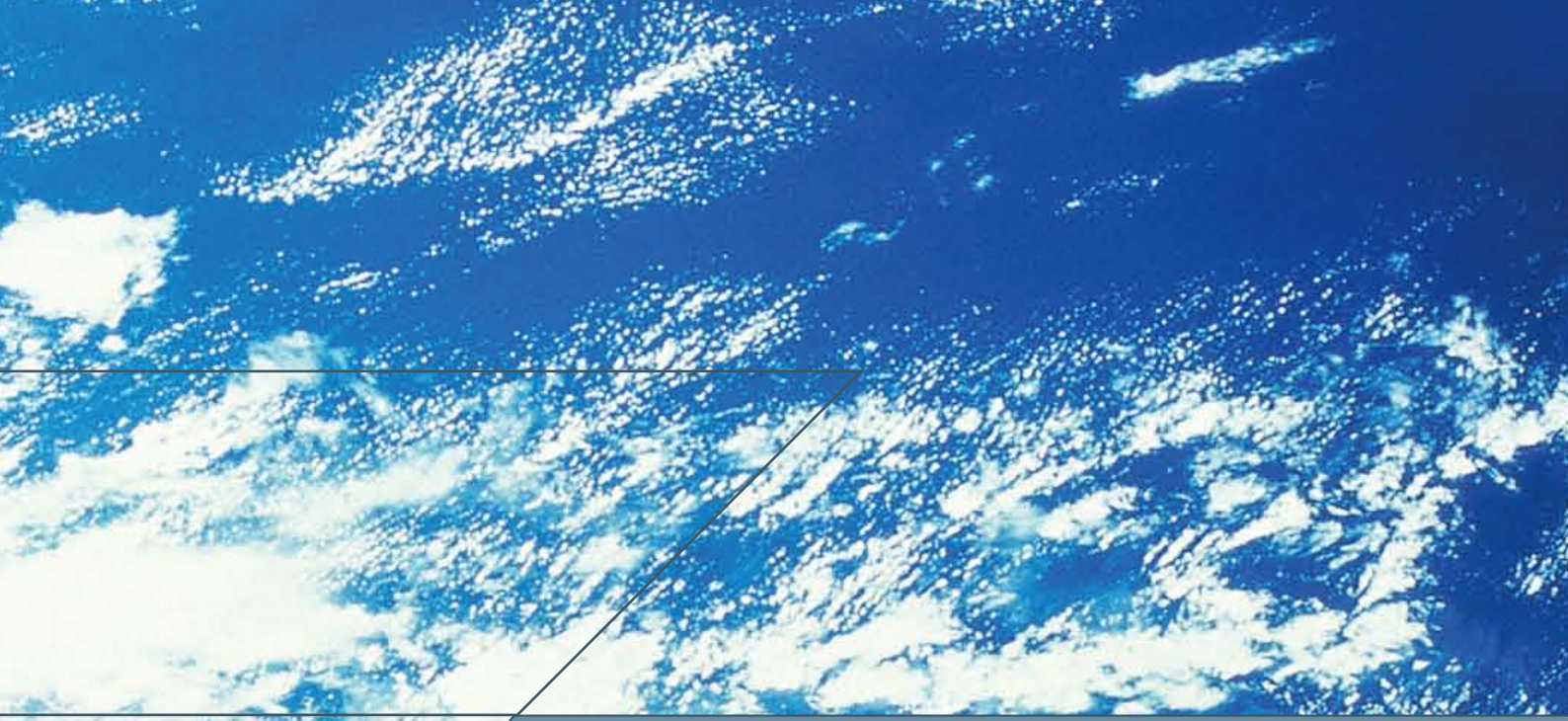
SERVICE DELIVERY ACHIEVEMENTS:

The delivery achievements relating to the programme are tabulated below.

Sub-programme	Output	Measure / Indicator	Actual Performance against target	
			Target	Actual
Governance sub-programme	Contextualised performance management system (KPI)	Target as set out in Key Performance Indicator reports met or exceeded.	Ongoing monitoring & evaluation to improve the performance of institutions relative to targets. Sound governance protocols in place.	<ul style="list-style-type: none"> • Shareholder compacts signed with all institutions reporting to the DST; • Synthesis Review of SETIs completed; • Policy on Governance Standards for SETIs developed; • Chairpersons', CEO and CFO For a established; • Boards appointed & vacancies filled.







PROGRAMME 2

SCIENCE AND TECHNOLOGY EXPERT SERVICES

PROGRAMME 2

SCIENCE AND TECHNOLOGY EXPERT SERVICES

This Programme comprises an integrative resource group working to optimise research and innovation management, policy capacity and effective implementation. The staff renders a flexible and responsive science and technology expert service. The Programme further provides the expertise and resource base to deliver on crucial NSI initiatives for the line programmes and the leadership of DST, and the NSI in a broader context. This approach ensures that there is optimal use of resources and avoids duplication of crucial resources. A set of core skills is maintained within the DST and a network of specialists and service providers are utilised to complement and leverage our capabilities.

SciTES is responsible for serving the other Programmes of the DST and the NSI with policy and content expertise across a range of S&T domains. It provided some major content inputs to processes and projects of other DST Programmes during the year.

Areas of expertise include policy research in hydrogen economy, nanotechnology, space science and astronomy, paleontology, human capital for SET, advanced manufacturing, science and youth, as well as biotechnology and health.

The Programme has supported a number of the Department's initiatives, which are elaborated on under Programmes Three, Four and Five.

THE NATIONAL ADVISORY COUNCIL ON INNOVATION

During the year, the Minister of Science and Technology launched the National Biotechnology Advisory Committee as a sub-committee of NACI to advise him on issues pertaining to Biotechnology. NACI advised the Minister on a number of issues, based on studies commissioned to serve as evidence base for advice to the Minister, including the following:

- Race and Gender Equity Policy;
- The Development of a Profile of Best Practices in the NSI; and
- Required physical infrastructure to attain the vision of the NSI.

INDIGENOUS KNOWLEDGE SYSTEMS (IKS)

The national effort for the affirmation, recognition, protection, development and promotion of IKS is well underway and gathering momentum in South Africa. A national IKS office (NIKSO) was established in April 2006 for the implementation of the IKS policy. This represented a significant milestone.

The NIKSO has a three-tier structure: Advocacy and Policy Development (which focuses on policy and legislation development, advocacy and the mobilisation and management of a variety of stakeholders), Knowledge Development (which concentrates on research and development in IKS) and Knowledge Management (which is tasked with the integration and management of all IKS-related databases, the registration and certification of knowledge-holders, and the auditing, monitoring and evaluation of the indigenous knowledge being generated within the entire NSI).

Another notable milestone is the establishment of an IKS laboratory on traditional medicines at the MRC.

GRANT-IN-AID

The DST administers the Grant-in-Aid budget with funds donated to events and initiatives outside the Department, but which fall within its areas of interest.

Highlights during the year under review

- Development and approval by Cabinet of Hydrogen and Fuel Cell Technologies Strategy.
- Launch of Biotechnology Advisory Committee.
- Establishment of the National Indigenous Knowledge Systems Office.
- The Department also conducted public consultation on the Intellectual Property Rights (IPR) from Publicly Funded Research initiatives and made a presentation to the World Intellectual Property Rights Organization (WIPO) meeting in Nairobi on developing country issues.

SERVICE DELIVERY ACHIEVEMENTS:

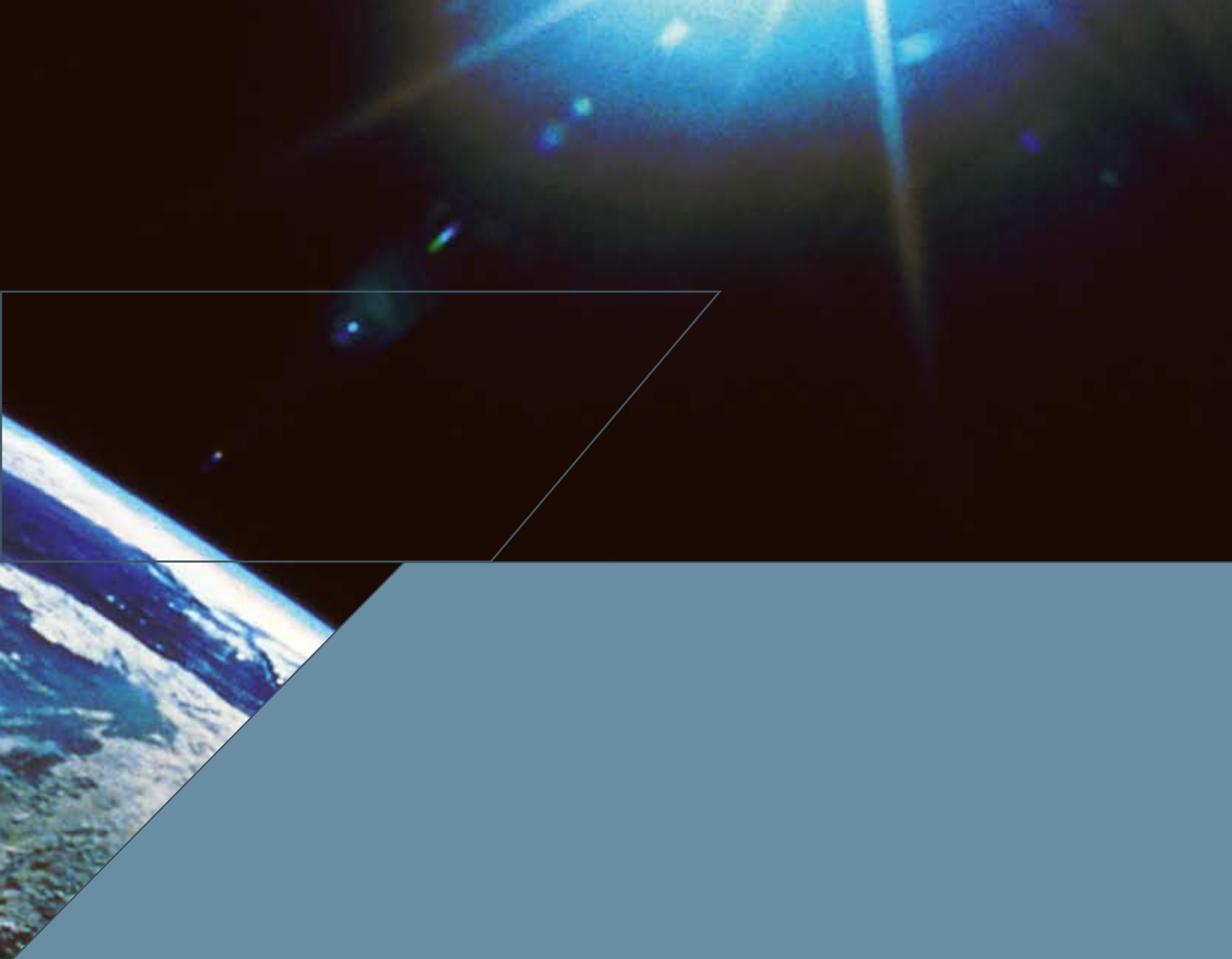
The delivery achievements relating to the programme are tabulated below.

Sub-programme	Output	Measure / Indicator	Actual Performance against target	
			Target	Actual
Expert Services	Provide analytical support and services according to briefs set by political principals and Department's executive. Provide expertise and deliver on NSI initiatives developed by the line programmes.	Policy responses, speeches, and briefing notes provided timeously.	Response within timelines to all three line programmes.	<p><i>Programme 3</i></p> <ul style="list-style-type: none"> • Developed projects to input into bilateral, multilateral and Africa collaborations on Biotechnology, Nanotechnology, Energy, Health, IKS and Human Capital development. <p><i>Programme 4</i></p> <ul style="list-style-type: none"> • Space: Framework for Space Agency approved by Cabinet; • Hydrogen: Hydrogen and Fuel Cell Strategy developed and approved by Minister; • Health Innovation programme developed and approved by Minister and funded by National Treasury; • IKS programme developed and funded; • Regional biotechnology instruments managed and coordinated; and • Steered and managed the SKA project. <p><i>Programme 5</i></p> <ul style="list-style-type: none"> • SANERI was successfully established. Competitive bidding for the post-graduate programme in renewable energy sources was completed and Stellenbosch University was awarded the Hub Hosting Grant. Research chairs in energy research and development processes were initiated; • AMI R&D programmes were reviewed and funded; • Chemicals sector programmes initiated and funded; and • AMTS: new flagship programmes rolled out.

PROGRAMME 2

SCIENCE AND TECHNOLOGY EXPERT SERVICES

Sub-programme	Output	Measure / Indicator	Actual Performance against target	
			Target	Actual
Expert Services	Provide analytical support and services according to briefs set by political principals and Department's executive. Provide expertise and deliver on NSI initiatives developed by the line programmes.	Policy responses, speeches, and briefing notes provided timeously.	Response within timelines to all three line programmes.	<i>Innovation Programmes for the NSI</i> <ul style="list-style-type: none"> • Initial development of the 10 Year Plan, Foundation for Technological Innovation and Competence Centres; and • Intellectual Property Rights Bill developed and approved by the Minister; and • Tax Incentives implemented.
NACI	Provide policy advice to the Minister of Science and Technology on the role and contribution of innovation in promoting and achieving national objectives.	A high standard of Ministerial advice which is based on the best available evidence aimed at improving and sustaining the quality of life of all South Africans; developing human resources for science and technology; building the economy; and/or strengthening South Africa's international competitiveness.	Useful, high quality evidence-based policy advice to the Minister on time and within budget	The following were delivered on time and within budget: <ul style="list-style-type: none"> • Draft Gender and Race Equity Policy submitted to the Minister; • Required Physical Infrastructure to Attain the Vision of the NSI submitted to the Minister; • Profile of Best Practices vis-à-vis the NSI; • OECD Evaluation of the NSI; • Advisory Note on IPR from Publicly Funded R&D; • Advisory Note on Research Publishing; and • Advisory Note on Tax Incentives.



PROGRAMME 3

INTERNATIONAL COOPERATION AND RESOURCES

PROGRAMME 3 INTERNATIONAL COOPERATION AND RESOURCES

“The component’s research agenda will address infectious diseases problematic to the continent, such as malaria, TB and HIV/Aids, and will also focus on food security challenges through its Plant Biotechnology research groups”

This Programme’s main function is to continue developing bilateral and multilateral cooperation agreements in science, technology and innovation to contribute to the strengthening of the NSI. It is also responsible for developing a coherent strategic programme to access official development assistance for S&T in South Africa in particular and the African continent in general.

The Programme further aims to create a technological intelligence capacity to monitor and evaluate international S&T trends, and to leverage South Africa’s competitive advantage in new and innovative technologies, within a global context. The main objective underpinning all its activities is to increase flows of scientific knowledge and resources to South Africa through participation in joint programmes, and positioning South Africa as a preferred destination for R&D investment.

Highlights during the year under review

- *Won the bid to host the ICGEB Africa component.*
- *Hosted the G77+China Science and Technology Ministerial in Brazil.*
- *Participated in the African Union (AU) Heads of State Summit in Addis Ababa, Ethiopia.*
- *Organised the Conference on Knowledge for Africa Development in partnership with World Bank and Government of Finland.*
- *Launched the Cooperation Framework on Innovation between South Africa and Finland (COFISA).*

MULTILATERAL COOPERATION

G77+ China S&T Ministerial Meeting

South Africa hosted the G77+China S&T Ministerial Meeting, titled *Challenges and Strategies for S&T in the South*, in Brazil during September 2006. The meeting provided an opportunity for Ministers, administrators and practitioners to discuss and address common S&T challenges and opportunities in developing countries.

The key outcome of this meeting was the launch of the Consortium of Science, Technology and Innovation for the South (COSTIS). The processes to establish



COSTIS were spearheaded by South Africa during the COSTIS First Task Force meeting in Italy during January 2007. The meeting provided a platform for a first exchange between Task Force members, preparing the institutional establishment of COSTIS and the development of the COSTIS statutes.

International Centre for Genetic Engineering and Biotechnology (ICGEB)

South Africa won the bid to host the ICGEB Africa component in November 2006, after a rigorous process which included competing for the location of this component with Nigeria and Tanzania.

September 2007 and will attract potential donors, African and other Science and Technology Ministers, representatives from the New Partnership for Africa's Development (NEPAD), the EU Commission, the African Union (AU) Commission, relevant United Nations (UN) bodies and other multilateral organisations involved in the sphere of Biotechnology.

Organization for Economic Cooperation and Development (OECD)

In August 2006, South Africa hosted a team of experts from the OECD Committee, as well as representatives from OECD countries on scientific and technological policies pertaining to our NSI.



This component is now hosted at the University of Cape Town's Institute of Infectious Diseases and Molecular Medicine (IIDMM) and will address major developmental challenges on the African continent. The component's research agenda will address infectious diseases problematic to the continent, such as malaria, TB and HIV/Aids, and will also focus on food security challenges through its Plant Biotechnology research groups.

The component will be officially inaugurated by the President of the Republic of South Africa, Mr Thabo Mbeki, in

The team focused on three components of the NSI, i.e. the academic, industrial and government sectors. A preliminary report with recommendations for South Africa will be released shortly and a national workshop will be hosted in Pretoria in July 2007 to respond to the recommendations and to agree on an implementation plan.

Through the DST, South Africa features prominently in all priority areas of the OECD Committee for Scientific and Technological Policy (CSTP) work programme. This includes active participation in the OECD CSTP subsidiary bodies,

such as the Technology and Innovation Policy Working Group (TIP), which is responsible for the NSI reviews conducted in South Africa during last year.

The Global Science Forum discusses global scientific infrastructure and national experts on scientific and technological indicators are crucial for developing scientific indicators. South Africa aims to expand its participation in the OECD's Working Group on Biotechnology and in the new Working Group on Nuclear Physics and Nanotechnology.

United Nations Educational, Scientific and Cultural Organization (UNESCO) International Summer School for Young Physicists

In April 2006, a process was embarked upon to select Grade 9 learners from Dinaledi schools to participate in the UNESCO International Summer School for Young Physicists. This resulted in the selection by the Perimeter Institute in Canada of six South African learners as well as learners from Canada, New Zealand, Australia, Singapore, South Korea, Romania, Poland, Germany, Denmark, Italy, Spain, the UK, the USA and Brazil.

It must be noted that the six South African learners were the only learners representing the African continent. It is envisaged that similar camps will be implemented in South Africa from 2008 in collaboration with the South African Association of Science and Technology Educators (SAASTE) and the South African Agency for Science and Technology Advancement (SAASTA).

Multilateral Environmental Agreements (MEAS)

The DST initiated a project to investigate S&T obligations in Multilateral Environmental Agreements (MEAs) which was conducted by Tswelopele (Pty) Ltd. The study's main aim was to investigate the S&T obligations and opportunities in selected MEAs which South Africa has ratified or acceded to. This formed part of the first phase of the MEAs study which was concluded in March 2007. The DST is now embarking on the second phase of the study based on the recommendations emanating from the first study.

“It must be noted that the six South African learners were the only learners representing the African continent”

AFRICAN COOPERATION

South Africa signed two bilateral cooperation agreements with Mozambique and Mali in July 2006. To this end, the following Joint Technical Committee Meetings were held: South Africa-Namibia in September 2006 and South Africa-Algeria in February 2006 to fast-track the implementation of agreements.

Exploratory visits were undertaken to Ghana and Mali in April 2006 and Rwanda in August 2006. The Department also participated in the fourth session of the Journal of Biological Chemistry (JBC) in August 2006.

The DST, in conjunction with the South African Science Councils, hosted delegations from Lesotho, Sudan, Ghana and Mali in an effort to establish and strengthen networks to enable cooperation between scientists from the respective countries. A number of projects have been implemented in various countries including the Potato Tissue Culture and Science Centre development (SA-Lesotho-UK DFID); Karoo Basin Geological Survey (Namibia and Botswana); search for S&T content in the Timbuktu manuscripts (Mali); assessment of the threat of the emerging amphibian disease (Nigeria) and laser research (Algeria).

NEPAD/AU

The DST undertook its first road show to the Western Cape on 24 October 2006. The session formed part of one of a series of planned interactions across the country between the DST and stakeholders of the African Programme in order to raise awareness of the programme, to obtain inputs from stakeholders, to raise awareness of the funding instruments and opportunities available to the research community and facilitate the movement of experts and sharing of resources to enable cooperation in science, technology and innovation.

AU-WIPO Awards

The AU and WIPO plan to launch a joint AU-WIPO Awards Event to honour inventions and innovations which address critical problems in Africa, such as those related to the fields of food technology, healthcare, water supply/sanitation and energy. The South African Selection Committee appointed by the Minister of Science and Technology is ready for action.

AU Summit, AMCOST and Conferences

The DST participated in the AU Heads of State Summit in Addis Ababa, Ethiopia, in January 2007. The AU Summit declared 2007 Science and Technology Year.

Resolutions adopted under S&T included the establishment of a Pan African Intellectual Property Organisation (PAIPO) and member countries increasing R&D spending to 1% of GDP. The DST also participated in the Extraordinary AMCOST meeting in Egypt in November 2006. In support of the NEPAD S&T, National Treasury allocated R10 million towards this cause. The Director of the Southern African Network for Biosciences (SANBIO) and the CEO designated for the ALC were identified.

The Three-year Report on African Cooperation

Following South Africa's tenure as Chair of the NEPAD/AU Science and Technology Platform, a report showcasing the successes of African Cooperation in research and technology over the past three years (2003-2006) was recently completed. Several institutions were approached to contribute articles on work performed in multilateral and bilateral African Cooperation during 2003-2006.

Funding Instruments

Funding was successfully negotiated for South African hosted focal points (Mathematical Sciences, Biosciences and African Laser Centre). These focal points were added to the African Scholarship Programme for Innovation Studies (ASPIS) and are now fully operational.

Southern African Development Community (SADC) Interventions

The SADC region plans to align its S&T programmes with those contained in the NEPAD programme. Highlights of the interventions in this regard are reflected below:

SADC Policy Workshop

The SADC Policy Workshop was held in Durban from 20 to 22 February 2007 with the aim of coordinating the development of the draft Protocol on Science, Technology and Innovation. Once adopted, the Protocol will provide a legal framework for the implementation and facilitation of regional cooperation on science, technology and innovation. The workshop brought together government representatives from ten SADC member states, the SADC Secretariat, as well as experts and representatives from academia and research institutions.

It further provided an opportunity for the participants to reflect and share experiences and challenges facing the development and implementation of S&T policies in their respective countries. The major outcome of this workshop was the first draft Protocol, which formed part of a complementary framework for the formulation of the final draft Protocol.

INTERNATIONAL BILATERAL COOPERATION

During the year under review, the DST signed S&T agreements with Australia, Argentina, the Slovak Republic, the Sultanate of Oman and the Hellenic Republic of Greece. The DST hosted various workshops between South African and Argentinean scientists, as well as with delegations from Spain and Australia.

In addition, a delegation from South Korea was hosted and during a series of workshops, specific initiatives of mutual benefit, including Human Capital Development research opportunities at the Korea Institute of Science and Technology (KIST), Space Policy and Biotechnology were identified as areas of potential growth. Collaborative projects in the areas of the hydrogen economy and fuel cells, as well as the nanotechnologies are being developed.

DST representatives attended the seminar on Cooperation for Development with delegations from Chile, Brazil, South Africa, Mozambique and Angola, which was hosted in Pretoria, during January 2007. Information on possible areas of collaboration and strong regional linkages was exchanged, and challenges facing each country in terms of enhancing collaboration were explored.

The DST also participated in the Third Annual Consultation between South Africa and Canada during which S&T relations were reviewed. The DST followed up with a technical visit to Canada, *inter alia*, to review the Research Chairs Programme.

Furthermore, a technical visit was undertaken to Chile and Peru to obtain an improved overview of the S&T systems of both countries. A number of projects were discussed for possible collaboration in energy, biotechnology, biodiversity and astronomy.



Bilateral relations with China were enhanced through exchange visits and identification of opportunities in both countries. An S&T delegation from the DST visited China to discuss the telemedicine project in terms of its application to South Africa with possible Chinese technical support. Other areas covered were drug development, Rex rabbit breeding, laser technology and light materials.

A delegation from Spain was hosted and a joint workshop on S&T research was conducted to enhance the relations in the areas of advance manufacturing, space, astronomy and ICT.

The DST also hosted a delegation from Indonesia during whose visit parallel workshops on Biotechnology and Energy were conducted. The workshop on Biotechnology focused

on the aloe plant and traditional medicine, whereas the Energy workshop revolved around Coal Liquefaction and Mine-Mouth Power Plantation.

The DST received a S&T delegation from South Korea during which Biotechnology, Nanotechnology, Space Sciences and Astronomy, Hydrogen and Fuel Cell Technologies and Nuclear Science were identified as thematic areas for collaboration. A bilateral flagship project on Biotechnology was also initiated and now bears the name, ***New Drug Discovery from Traditional Medicine***. During visits between DST South Africa and the DST India, a Joint Committee meeting was conducted and issues around SKA, SALT and ICGEB were discussed at length.

INSITE 2006

INSITE 2006 was successfully hosted by the DST from 24 to 27 September 2006 at the Sandton Convention Centre in Johannesburg. An exhibition was organised to celebrate the achievements of S&T in a democratic South Africa in partnership with the international community. This event attracted international counterparts from Germany, the People's Republic of China, Japan, Mozambique, Lesotho, Botswana and a number of South African science institutions.



PROGRAMME 3

INTERNATIONAL COOPERATION AND RESOURCES

JAPAN



The South Africa-Japan Joint Initiative on Priority Skills Acquisition (JIPSA) Task Force was established at meeting held on 13 February 2007. Through the DST's coordination and leadership, the South African working group (consisting of S&T stakeholders, Government and the private sector) developed and submitted proposals to Japan in line with ten identified collaboration programme areas agreed upon during a technical visit to Japan from 15 to 19 January 2007.

A series of meetings with representatives from the Japanese Embassy and Japan International Cooperation Agency-South Africa (JICA-SA) office have been held about moving forward and concretising the technical visit to Japan. Another technical visit to Japan has been scheduled, which will formalise the proposed partnerships between all relevant South African stakeholders and their Japanese counterparts, as well as finalise collaborative projects.

NORWAY



Norway committed R42 million towards research projects for the next three years. 26 joint proposals were approved under the new joint business plan, which mapped a major transition from a donor to a partnership relationship. Research focus areas will include the environment, HIV/Aids, ICT and energy.

RUSSIA



The Russia-SA Space Agreement was signed on 5 September 2006. The objective of this agreement was to create an appropriate organisational and legal framework for mutually beneficial cooperation in specific areas of exploration and use of outer space, practical application of space equipment and technologies for peaceful purposes, particularly by:

- Developing a framework for commercial and other types of activities related to the launching of spacecraft and space apparatus;
- Developing a framework for commercial and other types of activities related to the launching of spacecraft and space apparatus;
- Encouraging scientific research and cooperation, and joint types of activities in the design, development, production, testing and operation of space equipment;
- Promoting mutual exchanges of relevant technologies, expertise, equipment and material resources; and
- Providing conditions for the conclusion of subsequent agreements relating to the activity pursuant to this Agreement.

FRANCE

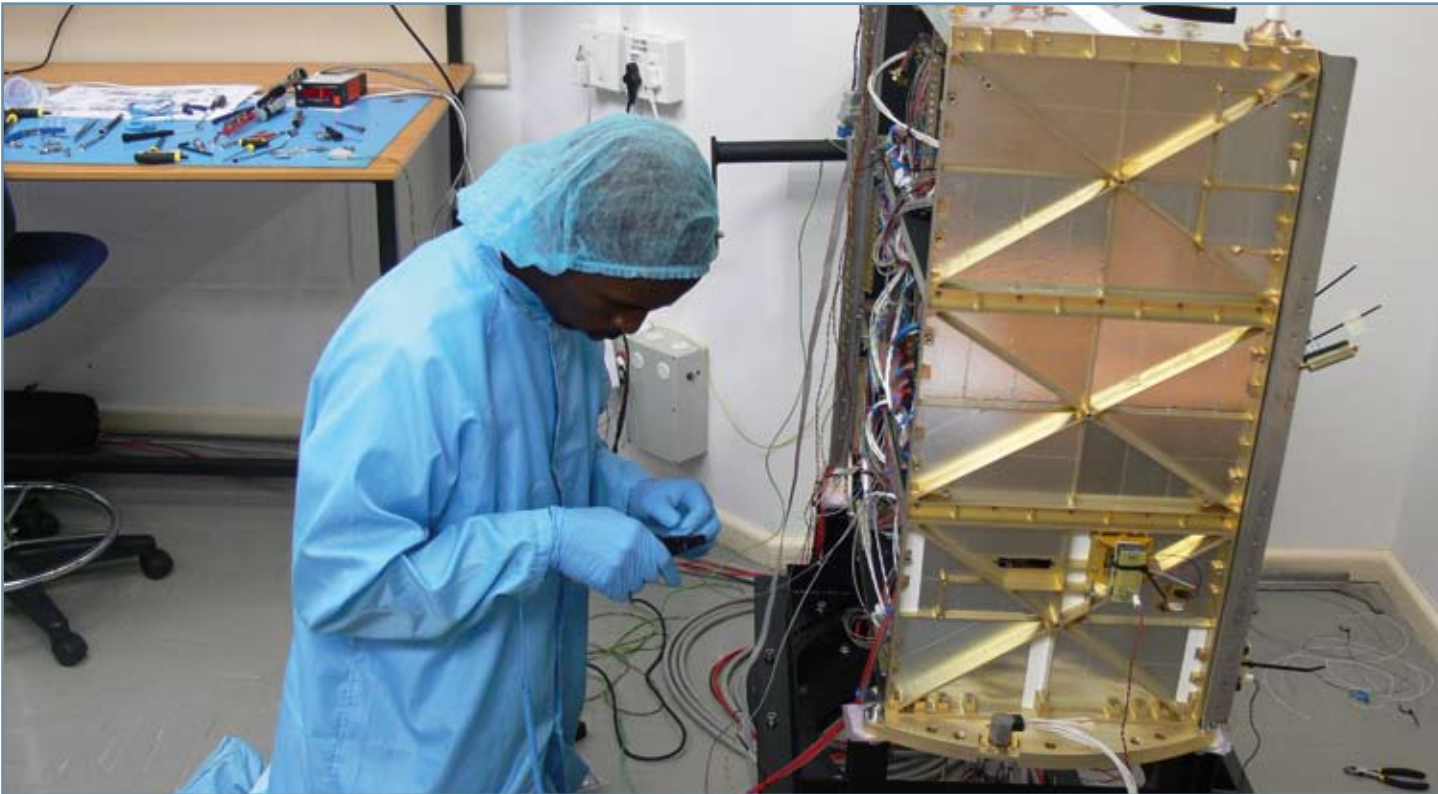


France and SA S&T relations have matured significantly and have now entered a stage of advanced research among science institutions in both countries. The water and information technologies programmes are funded by both governments, i.e. the DST in South Africa and the French Ministry of Foreign Affairs in France.

In South Africa, the SAFeTi programme is coordinated by the Meraka Institute of the CSIR and the Institut de Recherche en Informatique et en Automatique (INRIA) in France. It was launched on 9 May 2006 and will run for four years.

The DST has committed R2,4 million to the SAFe Water Programme for four years, and the French Ministry of Foreign Affairs has committed R300 000. The programme is coordinated by the Water Research Commission (WRC) in South Africa. Areas of collaboration include: (i) hydro-climatology for short and long-term rainfall forecasting; (ii) water quality management and treatment; and (iii) management of water resources.

Further to the aforementioned, South Africa, France and Senegal are cooperating on laser technology. This is a unique cooperative relation which entails third country participation.



EU Framework Programme

South Africa improved its participation in the sixth European Framework Programme (FP6), most notably in areas such as ICT, aeronautics and social sciences. The DST and the European Commission continued their joint efforts through institutional interventions to promote South African participation in the FP6. This resulted in a notable success rate in the FP6 top-up call aimed at promoting participation by the so-called third world countries, where South Africa was second only to the Russian Federation.

The role of the European South African Science and Technology Advancement Programme (ESASTAP), a dedicated platform for the advancement of European-South African S&T cooperation, has been central in creating awareness and showcasing South Africa's innovation capabilities in Europe, thus promoting South Africa as a preferred third country partner for the Framework Programme.

INTERNATIONAL RESOURCES

Information Society Technologies (IST) – Africa

The IST-Africa Conference took place with the support and sponsorship of the European Union and South Africa through the ESASTAP. IST-Africa 2006 was the first in a series of annual conferences aimed at bridging the digital divide in sub-Saharan Africa.

The event brought together delegates from commercial, government and research organisations across Africa and from Europe to share knowledge, experiences, lessons learnt and good practice. More than 300 delegates from 38 countries and four continents attended the conference, with exhibitors from 13 African and European countries.

IST-Africa 2006 focused on applied IST research topics addressing major societal and economic challenges and combined strategic keynote presentations, technical and policy papers, case studies, workshops and exhibitions. Overall, the conference aimed to stimulate take-up of research results by industry, SMEs and the public sector, so as to promote knowledge sharing between commercial organisations, government agencies and the research community.

In addition, experiences were exchanged regarding the current state of e-Adoption at a sectoral, regional and national level, and to support international cooperation and open up the European Research Area (ERA) to Africa.



The DST organised, *inter alia*, the Conference on Knowledge for Africa's Development in partnership with the World Bank and the Government of Finland. This conference identified key lessons and priorities for Africa's knowledge economy.

Apart from the participation in the sixth Framework Programme, DST, through the Brussels office, also engaged in and informed a strategic dialogue with partners in Europe to guide the preparation of the new seventh Framework Programme to be launched in December 2007, specifically with regard to identifying content.



The Cooperation Framework on Innovation System between Finland and South Africa (COFISA)

The Cooperation Framework on Innovation System between Finland and South Africa (COFISA) was launched in September 2006 with the aim of enhancing and strengthening the South African National System of Innovation. Various stakeholders in the three pilot provinces of Gauteng, the Eastern Cape and the Western Cape were engaged in order to identify and support economic growth and poverty alleviation initiatives through innovation. The Programme, during the year under review, also supported and contributed to discussions on the possible establishment of a Technology Innovation Agency.

Sector budget support

Following months of consultation and feasibility studies, the DST prepared a proposal for the EU Sector Budget Support aimed at mobilising funds to promote the use of S&T for sustainable development and poverty alleviation. The proposal will be funded by up to R30 million for three years effective from 2008.

Group on Earth Observations (GEO)

South Africa remained the most active African member of the Group on Earth Observation and executed the role as a member of the Executive Committee and its co-chair with distinction. During the December 2006 GEO Plenary,

PROGRAMME 3

INTERNATIONAL COOPERATION AND RESOURCES

South Africa was selected to host the 2007 Earth Observation Ministerial Summit. This will be the first such event in a developing country after the USA, Japan and Brussels events.

South Africa was also active in the development of the GEO Work Plan for 2007-2009 and is leading two tasks, viz:

- Sensor web; and
- Open Source Software (OSS).

The DST also contributed to the development of the Capacity Building strategy document for the GEOSS (Global Earth Observations System of Systems).

Joint Institute for Nuclear Research (JINR)

The scientific collaboration between JINR and DST is maturing, and has resulted in three identified projects to the value of R850 000, which include Neutron Applications, Heavy Ions Beams, and GRID & Theory.

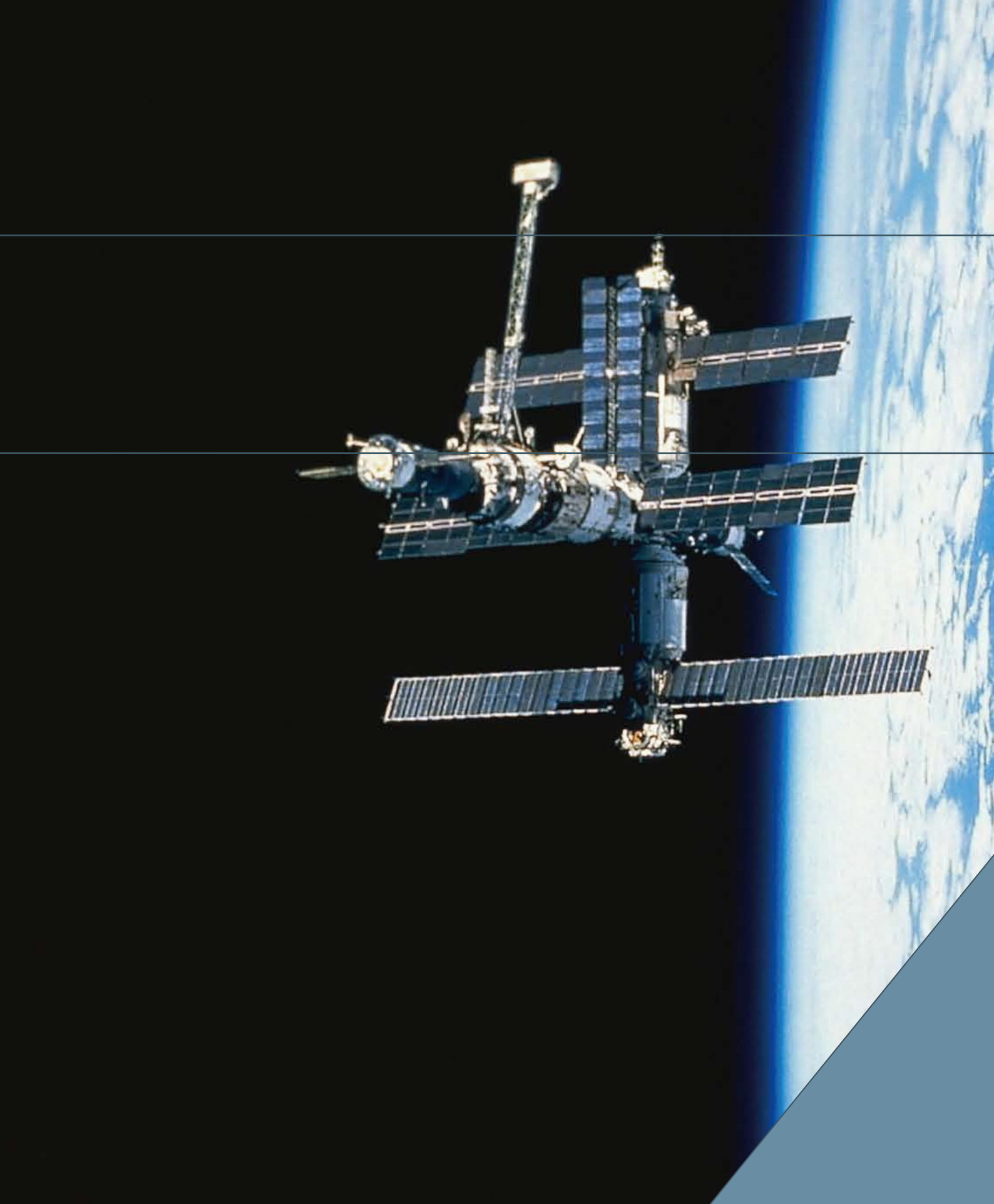
In order to monitor and review progress in the implementation of the cooperation agreement with JINR, two Joint Coordinating Committee meetings were held during the period under review. The first one was held in October 2006, in Dubna, Russia, and the second one in February 2007, in South Africa. Numerous exchanges in the form of workshops and site visits have taken place between Dubna and South African researchers. More projects have been planned for 2007, which includes a Winter School for 20 post-graduate students from South Africa, who will spend two weeks in Dubna during December 2007.

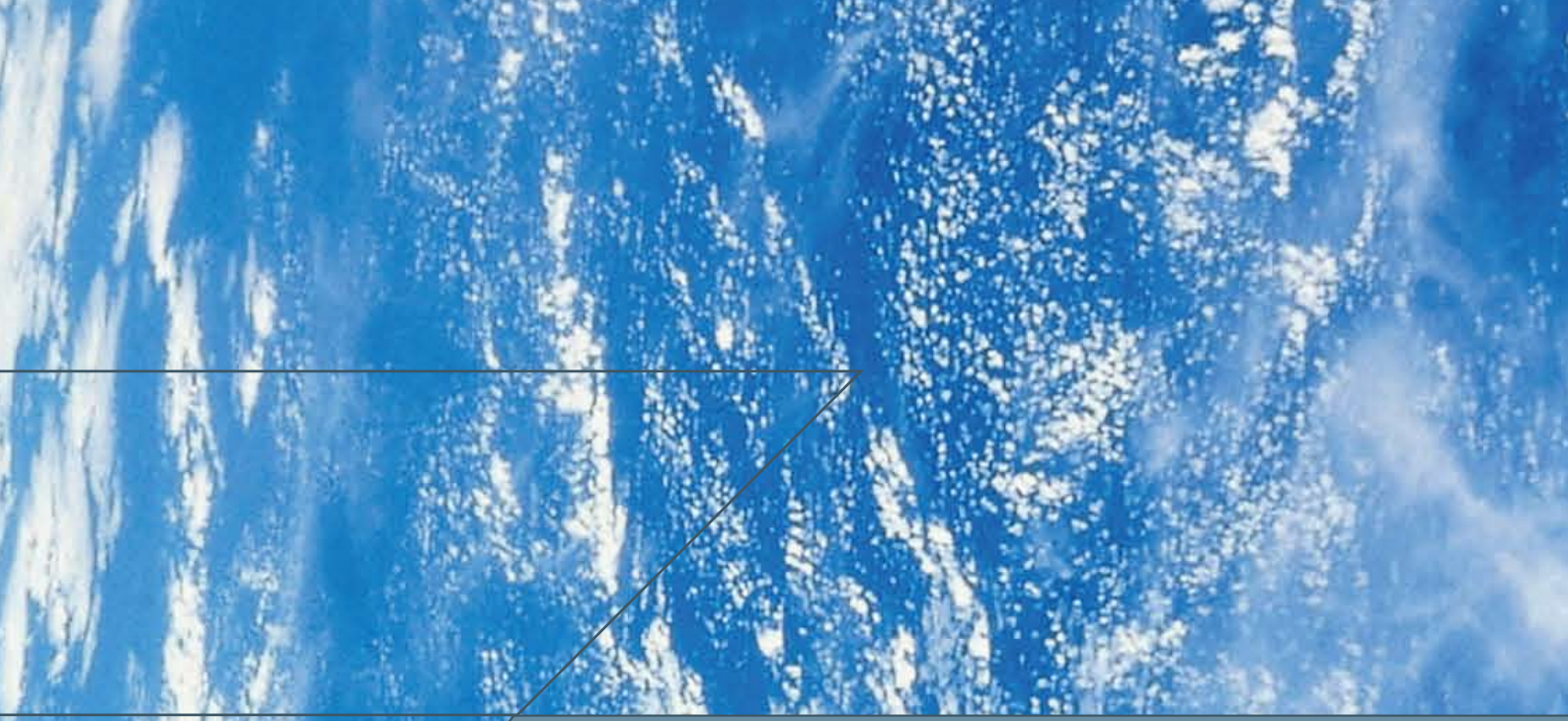
SERVICE DELIVERY ACHIEVEMENTS:

The delivery achievements relating to the programme are tabulated below.

Sub-programme	Output	Measure / Indicator	Actual Performance against target	
			Target	Actual
Multilaterals and Africa	African and multilateral co-operation on science and technology	Number of new bilateral programmes	Programmes in at least 2 more countries	Two agreements with Mozambique and Mali. Participated in the JCC with Mali in Mali. Participated in an extraordinary Conference of Ministers of S&T in Egypt.
		Number of Nepad flagship science and technology programmes South African institutes participate in	All 12 programmes	Bilateral S&T agreements provide an enabling environment for participation in the flagship programmes. Participated in the AMCOST bureau meeting. Hosted the SADC Ministerial S&T meeting. Support to the S&T NEPAD focal points and network continued.

Sub-programme	Output	Measure / Indicator	Actual Performance against target	
			Target	Actual
Multilaterals and Africa	African and multilateral co-operation on science and technology	Formal bid for 3rd International Centre for Genetic Engineering and Biotechnology component centre submitted	Lead in selected multilateral for a in the development of the World Science and Technology Innovation Report and Global Science and Technology Review Conference by 2008.	Participated actively in the OECD Global Science Forum. Hosted the OECD International Task Team. Successfully hosted the G77 S&T Ministerial meeting in Brazil. Participation in the 88th OECD CSTP meeting. Coordinated the South African position paper for UNCSD 15. The World Science and Technology Innovation Report and Global Science and Technology Review Conference are both in partnership with the UN Commission for S&T for Development and are in discussion in UNCTAD.
			Submit a formal bid to secure South Africa as the preferred location for the 3rd ICGEB component centre by 2006/07	South Africa won the bid to host the 3rd ICGEB component; announcement made on the 30th November 2006.
International Resources	Flow of international resources to science and technology in South Africa and Africa	Percentage increase in current level of international funding won through leveraging and participation	Increase by 50% the international funds won through leveraging and participation in comparison with the previous year	The finalization of a financing proposal for a budget support programme from EPRD. COFISA launched. Finalised financing proposals for SAFIPA and SANBIO with Finland. Facilitated and broadened SA participation in the EU FP6 through ESASTAP. Since the launch of ESASTAP two years ago, R138million has been leveraged from the EU. Promoted foreign investment partnerships with multinational companies (SAP Group; J'adore). Launched initiatives to promote South Africa's participation in EU FP7.
			Further enhance the International Technology Information Platform in 2007.	ITIP was further enhanced through the development of the data platform and various country profile studies conducted.
Bilateral Co-operation	Country-to-country co-operation in science and technology outside Africa	Co-operative relationships extended to target countries	Remaining countries of the new 10 of the EU, and Latin America and Asia	Agreements were signed with: Argentina, Slovakia, Australia and Greece. Incoming delegations were hosted from Argentina, Slovakia, Spain, New Zealand and South Korea. Technical visits were undertaken to Japan, Brazil, Peru, Chile, China, Germany, Flanders, Greece and Iran. The annual consultation with Canada took place. SA, France and Senegal are cooperating on laser technology. The new Business Plan with Norway was signed, followed by a Call for Proposals. Hosted IBSA workshops.





PROGRAMME 4

FRONTIER SCIENCE AND TECHNOLOGY

PROGRAMME 4 FRONTIER SCIENCE AND TECHNOLOGY

This Programme provides leadership in relevant, long-term and cross-cutting research, development and innovation that will assist the NSI in becoming a world-class S&T resource. The Programme focuses on harmonising activities in research, development and innovation in industry, academia and research institutions. Its second core focus is human capital. This involves formulating, developing and implementing national programmes aimed at producing knowledge and developing human capital. Focus areas include astronomy, human palaeontology and IKS. Current developments include establishing Research Chairs in South African universities in strategic areas.

Highlights during the year under review

- *Inward licencing of internationally competitive technologies by both Cape-Bio and BioPAD.*
- *Completion of SumbandilaSat.*
- *Approval by Cabinet for the establishment of the Space Agency.*
- *Commissioning of the CHPC.*
- *Launch of the South African Research Chairs Initiative (SARCHI).*
- *Approval by Cabinet of the Youth into Science Strategy (YiSS).*

The Programme's chief objective is to build programmes within the NSI, particularly by using the resources of the DST and its institutions, to ensure that South Africa has an evolving world-class S&T portfolio and a thriving, expanding and representative human capital base.

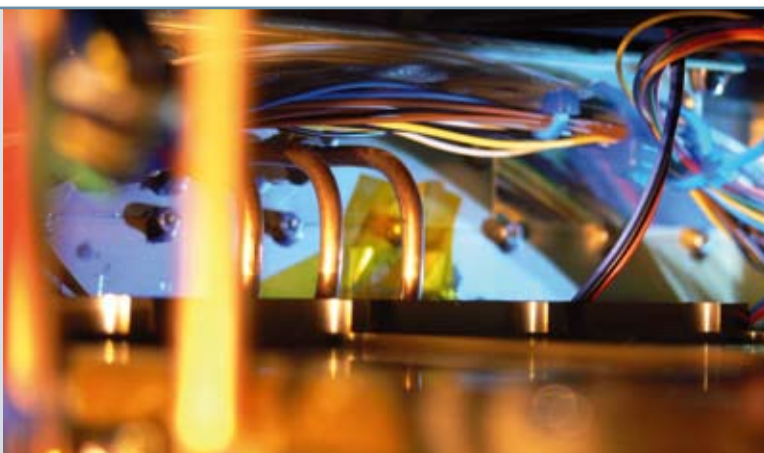
BIOTECHNOLOGY

A major achievement of the DST was the inward licencing of internationally competitive technologies by both Cape-Bio and BioPAD, in partnership with biotechnology companies. The roll-out and implementation of the BRICs, namely LIFELab, Cape Biotech, BioPAD and PlantBio, proved to be highly successful.



Based regionally to enhance the immediacy of support and to focus on regional strengths and opportunities, the BRICs have, during the first four years of their existence, invested considerably in creating the appropriate innovation support infrastructure and systems required to develop the biotech sector within South Africa.

Since their establishment, these centres have worked diligently in support of the NSI and have demonstrated the capacity to adjust to the ever-changing technological



environment. In addition, they have satisfied research and human capital development needs for both the academic and the entrepreneurial sectors and have also created policies, mechanisms and instruments for supporting biotechnology innovation. Business processes such as due diligence, reporting and IP management were also developed to support their endeavours.

These centres have financially supported more than 100 innovative projects, disbursed in excess of R500 million, created 38 companies and are currently employing more than 400 people.

They also promote regional and international interaction and networks to enhance collaboration and idea stimulation as per

the DST's strategic implementation plans developed for each of the institutions; the pinnacle objective being a coordinated effort in achieving the Biotechnology mandate.

The diversity of their portfolios is reflected in some of the investments listed below:

- Anti-HIV microbicides – technologies that enhance women's ability to deal with the scourge;
- Gene discovery, including from deep mines (a feature of SA's gold mine industry);
- Improvement of cattle breeds (Bonsmara) – application of new technologies to strengthen South Africa's agriculture;
- Bio-treatment of acid mine drainage – the Rhodes BioSURE Process that uses a unique cocktail of bacteria to neutralise the pH of mine drainage using human sewage as a carbon source;
- Drug delivery – both a platform for rate modulated drug delivery designs, and target-specific drug delivery;
- Biological control products – treatments for pests affecting commercial agriculture;
- Bioleaching – use of microbes to leach metals from their ores; and
- High throughput sequencing – Inqaba Biotech – the first African company to offer a service of this nature.

The 2006/07 financial year also saw various other highlights, including the launch of the:

- **The National Biotechnology Advisory Committee:** This Committee was established to advise the Minister of Science and Technology on strategic biotechnology issues and bioethics, and to provide strategic direction relating to biotechnology.
- **The Second National Biotech Survey:** This survey was commissioned in 2006 and is currently being conducted (based on OECD guidelines) on the biotechnology landscape in South Africa.

PROGRAMME 4 FRONTIER SCIENCE AND TECHNOLOGY

- **Technology Platforms:** During the years 2004 –2006, more emphasis was placed on the establishment of enabling biotechnology infrastructure, including Technology Platforms, Centres of Excellence and Centres of Competence.

Recently we saw the establishment and launch of two Technology Platforms by BioPAD, namely the Drug Discovery Platform and the Metagenomics Platform. LIFElab launched its Bioprocessing Platform in Umbogintwini, south of Durban, in June 2007.

In November 2006 South Africa was awarded the honour of hosting the ICGEB Africa component, the third component of its kind in the world. (As mentioned above, this centre will be located at the University of Cape Town's Institute of Infectious Diseases and Molecular Medicine. The Component's research agenda will address the treatment and mitigation of infectious diseases such as malaria, TB, HIV/Aids and food security challenges.)

Last year, the Biotechnology Unit published a brochure on **Biotechnology Strengths and Successes: A Snapshot of Biotechnology in South Africa up to 2004**. This brochure highlights achievements in biotechnology in the country.



The BRICs also successfully hosted their second Bio2Biz Conference at the International Convention Centre (ICC) in Durban. This conference was aimed at attracting the private sector to invest in and/or partner with the biotechnology industry in South Africa, and featured both local and international speakers.

PEBBLE BED MODULAR REACTOR (PBMR)

Cabinet approved the PBMR Human Capital and Innovation Frontier Programme, which was designed to expand local knowledge pertaining to the entire technology value chain of PBMR development.

Two university chairs have been established and bursaries awarded to undergraduate and post-graduate students. The awareness programme included a National Youth Nuclear Conference and school-based programmes.



The next phase will involve the awarding of bursaries and the establishment of more university chairs.

INTELLECTUAL PROPERTY RIGHTS FROM PUBLIC FUNDED RESEARCH

The stakeholders' consultation process was finalised and the policy framework subsequently revised. The drafting of the resultant Bill was completed and scheduled for presentation to Cabinet for approval in April 2007.

THE INNOVATION FUND

The Innovation Fund Commercialisation Office (IFCO)

The last financial year witnessed the continued expansion of the Innovation Fund in support of the activities of innovative R&D by SMMEs, with the inclusion of broad-based BEE as a targeted outcome. In this respect, the IFCO has made the following inroads:

- **Red Five Labs:** The Innovation Fund, in partnership with HBD Venture Capital, has co-invested in the creation of breakthrough software that will allow applications developed for mobile phones running on Microsoft software to run unchanged on Symbian phones. This will create significant new markets. The idea was conceived and executed by a small team of software developers in Johannesburg.
- **Development of a robotics product concept:** Similarly, the SMME Robonica, aims to develop educational robotics technology. Primed for global markets, this will boost empowerment by involving black engineers in a highly specialised field. The Innovation Fund will cover the first three years of development, after which co-investment will be sought to fund the initial manufacturing start-up and commercialisation activities.

- **Centre for Quantum Cryptography:** This centre will focus on developing local infrastructure and expertise in this area, which is at the cutting-edge of computer science globally. This flagship project is the development of a low-cost quantum key exchange unit that provides absolute security in the transfer of information.
- **Improvement of indigenous abalone through genetics:** The Innovation Fund is partnering with major players in the local seafood sector to invest in the improvement of indigenous abalone through genetics. The project will address the decrease in the supply of abalone from natural fisheries due to over-fishing and illegal trade, and improve South Africa's competitiveness in the aquaculture industry.

It further aims to produce novel strains of abalone that will improve profitability within the industry and establish a sustainable aquatic biotechnology platform. The project is being led by Dr Danie Brink of the University of Stellenbosch and industrial partners Irvin and Johnson (Pty) Ltd, Aquafarm Development Company (Pty) Ltd, HIK Abalone (Pty) Ltd and Abagold (Pty) Ltd.

Intellectual Property Management Office (IPMO)

The IPMO has been strengthened with the addition of a second patent attorney with extensive experience in commercial practice. This has resulted in the organisation increasingly playing a key role in rendering legal opinions to the Innovation Fund.

The training and development of black candidates as patent attorneys have progressed well. Three candidates have spent combined periods of up to six months with the IP law firms, Adams & Adams and Spoor & Fisher, as well as the University of Stellenbosch, where they received experiential training in various aspects of patent attorney practice. The candidates

also made meaningful progress in their studies and two of the candidates were expected to complete their LLB degree by the end of last year.

The IPMO also led the drafting of the Innovation Fund's terms of reference for the establishment of technology transfer or IP management offices at various higher education institutions. Discussions are underway to create such capacity at the Universities of KwaZulu-Natal and the Nelson Mandela Metropolitan Municipality before the end of 2006.

To strengthen this initiative, the subscription to the Frost & Sullivan Africa's web-based Information Resource Tools and Micro Patent was supported. This will assist in identifying opportunities for growth and development within areas that are relevant to DST's Programmes. Information from these resources can be shared among various organisations within the S&T system.

NANOSCIENCE AND NANOTECHNOLOGY

The 10-year plan of the strategy has been developed and is currently being implemented. The National Nanotechnology Equipment Programme is being rolled out in partnership with the NRF, as part of the R&D infrastructure. This will provide investigators with the tools to conduct this specialised research.

Plans are being developed to establish two nanotechnology centres. These centres will provide a concentrated effort to conduct world-class R&D in nanoscience and technology and will champion the development of HR in this emerging area.

- **Building of Infrastructure:** The National Nanotechnology Equipment Programme is implemented by the NRF on behalf of the DST. This programme facilitated the acquisition of specialised nano-equipment for various research councils and universities.
- **Establishment of Nanotechnology Research Chairs:** Two Nano Research Chairs were established in order to enhance and expedite focused human capital development and research output.
- **CSIR led TB-Nano Drug Delivery Project:** Significant progress has been made in developing the gradual release of TB medication after each dosage. This is intended to reduce the frequency of drug medication intake and in turn reduce the risk of drug resistance.

“Significant progress has been made in developing the gradual release of TB medication after each dosage. This is intended to reduce the frequency of drug medication intake and in turn reduce the risk of drug resistance”



- **Nano-Awareness:** The DST has embarked on a public awareness campaign in order to ensure that the implementation of the Nanotechnology Strategy occurs in a manner that fosters open debate and public access to information. The first phase of the programme, which focuses on the broad scientific community, is being rolled out nationally.

SPACE SCIENCE AND TECHNOLOGY

SumbandilaSAT

South Africa has capitalised on an existing knowledge base to develop a micro satellite, SumbandilaSat. The satellite design and construction was completed during December 2006, as planned. The images yielded by the satellite will be used in various applications which have direct benefits to societies, such as flood and fire disaster management; enhancing food security through crop yield estimation; ensuring better human and animal health through enabling the prediction of the outbreaks of diseases; better monitoring of land cover and use; as well as improved capabilities for water resource management.

As part of this programme, a school competition was held for high school learners to name the satellite. This was also a mechanism to create awareness of space S&T. Three learners were awarded prizes for the winning name.

The hands-on training of nine black graduate engineers which started in June 2007 has progressed very well and they will complete their training by building a training satellite. In addition, post-graduate training was supported at various universities in the country in space S&T related areas.



The Space Agency

As a follow-up to the approval by Cabinet for the establishment of the Space Agency, the first draft of the Space Agency Business Case has been completed and will be submitted to National Treasury and the Department of Public Service and Administration during the second quarter of the 2007/08 financial year. The related draft Bill has also been attended to.

PROGRAMME 4 FRONTIER SCIENCE AND TECHNOLOGY

“Being a developing country, South Africa is in a unique position to use the existing knowledge in hydrogen and fuel cell technologies to develop new niche applications to meet developmental challenges”

HYDROGEN AND ENERGY

The draft National Hydrogen and Fuel Cell Technologies Research, Development and Innovation Strategy was completed in the year under review. The strategy was scheduled for presentation to Cabinet for approval in April 2007.

The strategy focuses on three primary research objectives, which will be driven through the establishment of Competence Centres.

The virtual hub for developing catalysis expertise to ensure that South Africa's comparative advantage in Platinum Group Metal (PGM) resources becomes a competitive advantage was assigned jointly to UCT and Mintek. Through this effort, South Africa should supply 25% of the future global fuel cell market with novel locally developed and fabricated PGM catalysts.

The hub for developing fuel cell technologies for niche applications was assigned to UWC. Being a developing country, South Africa is in a unique position to use the existing knowledge in hydrogen and fuel cell technologies to develop new niche applications to meet developmental challenges. These will be underpinned by systems analysis and technology validation expertise that will be developed in South Africa.

The hub for developing cost-effective hydrogen production technologies will be assigned as soon as a suitable institution is identified.

THE CENTRE FOR HIGH PERFORMANCE COMPUTING (CHPC)

The CHPC has been established as a joint initiative by the DST, the Meraka Institute at the CSIR and the University of Cape Town to provide computing power for research and innovation activities. The installation of the first phase of the infrastructure was initiated in December 2006, with the centre commissioned in March 2007.





HUMAN CAPITAL AND SCIENCE PLATFORMS

Science and Youth

The DST is positioned at the pinnacle of the human capital development pipeline, and initiatives in this area are of extreme importance in the long-term sustainability of all efforts to increase the availability of scientists and researchers in the South African science system.

The thrusts of the Youth into Science Strategy (YiSS) were supported by Cabinet on 7 March 2007. In addition, Cabinet noted the DST-DoE Collaboration Plan aimed at facilitating the delivery of the YiSS, and supported the establishment of a Network of Science Centres in South Africa to serve as an infrastructure to implement the YiSS.

Thus far, the DST has presented the National Roll-out Plan for the establishment of a Network of Science Centres to Directors-General of Gauteng, Limpopo, Northern Cape and Mpumalanga. It envisages presenting the plan to the remaining five provinces before the end of the financial year. National Science Week (NSW) continues to increase its reach and participation by institutions in the science system such as higher education institutions and Science Councils.

The Department has increased its mathematics and science development camps to eight provinces in 2007. It envisages implementing these camps in all provinces by 2008. Thus far, more than 2 000 students have benefited from these camps. Similarly, the efforts of the Eskom Expo for Young Scientists have produced excellent results. Three young South African scientists were awarded, not only first prizes, but also 'Best in Category' awards at the Intel International Science and Engineering Fair in New Mexico, USA.

Six educators from the DST's Educator Support Programme were selected to attend the summer camps organised by the Perimeter Institute in Canada. More educators will be considered for this camp in the next two years. Physics departments at higher education institutions designed a programme to deliver the Physical Sciences curriculum. More such workshops will be held for chemistry and mathematics departments.

Educator camps to equip educators with skills to support learners participating in Olympiads and competitions were held in the Eastern Cape, North West and Mpumalanga.



PROGRAMME 4

FRONTIER SCIENCE AND TECHNOLOGY

Human Capital Development

Programmes aimed at other midstream points of the human capital pipeline, such as bursary initiatives for Honours students, a Professional Development Programme (PDP) and a post-doctoral fellowship, have been developed and are currently being implemented. The existing Centres of Excellence (CoEs) continue to foster the exploitation of cross-disciplinary and cross-institutional collaborations among researchers and institutions respectively.

Furthermore, the CoEs continue to improve the number of students up to doctoral level and to attract post-doctoral researchers. The consolidation of the Department's endeavours in human capital will culminate in the Science, Engineering and Technology Human Capital Strategy, which will articulate its aspirations for the building of a robust human capital base in the country.

South African Research Chairs Initiative (SARCHI)

The establishment of the SARCHI is one of the significant interventions in the area of human capital development. The response from the targeted higher education sector has been extremely positive and indicates that this initiative is set to be one of the most significant in the revitalisation of the NSI through an injection of expertise and funding in key areas aligned with Government strategy.

The process of awarding Round 2 research chairs (35 research chairs) continued during the period under review, with 141 pre-proposals received. One hundred and fifteen full proposals were shortlisted for peer review. The appointment

of Round 2 research chairs, to be concluded in the next financial year, will bring the total number of research chairs awarded to 56.

SCIENCE PLATFORMS

African Origins Platform

South Africa's rich heritage in palaeontology has been highlighted in the NRDS as one of the country's geographical advantages. The African Origins Platform seeks to exploit this for the benefit of new knowledge production; the training of the next generation of experts in this area; the fostering of innovations based on new and applied knowledge in palaeontology and archaeology; and the establishment of research collaborations in Africa and throughout the world.

The development of a strategy for supporting research (which commenced in 2004) was completed in 2006 with support from a wide variety of stakeholders. The consultations culminated in an evolution of thinking pertaining to the human palaeontology focus in the NRDS, to a more comprehensive strategy including all the sub-disciplines of palaeontology and archaeology in an effort to relay the entire account of African origins.

The finalisation and approval of this strategy can be regarded as a major output and has now created an environment for research, human capital development and innovation to thrive in this area. (It has now become much clearer what needs to be done in order for South Africa to consolidate this area of geographical advantage.)



SERVICE DELIVERY ACHIEVEMENTS:

The delivery achievements relating to the programme are tabulated below.

Sub-programme	Output	Measure / Indicator	Actual Performance against target	
			Target	Actual
Frontier Programmes	Biotechnology strategy	Regional biotechnology instruments plans finalised.	By June 2006	October 2006 Implementation plans of all the four BRICS (BioPad, PlantBio, CapeBio and LifeLab), and the National Bioinformatics Network and Public Understanding of Biotechnology were completed.
		Documentation of all successful projects.	By September 2006	March 2007 Progress reports on all the projects undertaken by the BRICS completed and submitted.
	Nanotechnology strategy	Implementation plan for nanotechnology strategy developed.	By June 2006	March 2007 Ten year draft plan developed. Still to be augmented with an R&D plan.
		Number of demonstration projects funded.	2 projects	Postponed to 2007/08 The implementing agency postponed the funding allocation of the projects to the following year to provide decent overall funds for demonstration projects.
	Hydrogen economy innovation strategy	Strategy approved by Cabinet.	By March 2007	Delay due to cabinet schedule and opportunity to present. Will be approved in the first quarter of the next reporting period.
		Intergovernmental committee established.	By June 2006	January 2007 Committee established and meeting convened and contributions into the strategy obtained. Took long to convene because of difficulties in getting everyone at the same time.
		Fuel cell demonstration project initiated.	By December 2006	January 2007 IST and Plug Power have been awarded the contract to install 2 Fuel Cell Systems at Science Centres.
	Pebble-bed modular reactor programme	Number of new chairs established.	3 new chairs by August 2006	Expected in August 2007 Chairs establishment was halted to align with the DST Chairs programme.
	Space science	Framework for space agency approved by Cabinet.	By June 2006	June 2007: Developed concept and a proposal to set up the Space Agency March 2007: Completed the Business case for Space Agency.
		Satellite technology roadmap developed.	By September 2006	December 2006: Developed Sumbandila Satellite for Earth Observation. October 2006: Initial mapping of the space activities.

PROGRAMME 4

FRONTIER SCIENCE AND TECHNOLOGY

Sub-programme	Output	Measure / Indicator	Actual Performance against target	
			Target	Actual
Frontier Programmes	Research and development infrastructure	Centre for high performance computing set up.	By March 2007	March 2007 Location confirmed and building renovated on time. Vendor identified, and equipment installed. Launch by the Minister of Science and Technology on in May 2007
		Number of fully operational nanotechnology characterisation centres established.	At least 1 by January 2007	Two centres established at Mintek and CSIR with co-investment committed from these institutions. Will be finalised in April 2007.
Human Capital	The South African Research Chairs Initiative.	Research Chairs identified from proposals submitted	By November 2006	October 2006 Chairs identified, evaluated and processed.
		Number of Chairs established.	20 chairs	21 Chairs awarded and established.
	Centres of Excellence	Number of new Centres of Excellence established.	3 more centres	No additional centres established due to lack of additional funds; Solicited more funds from National Treasury for additional Centres.
	Youth into Science Strategy (YISS)	Cabinet approval of final Strategy.	By December 2006	YISS completed October 2006. Cabinet approval in March 2007. Cabinet schedule delayed tabling in Cabinet.
	Science, engineering and technology, (SET) human capital strategy	Approval of the SET human capital strategy.	March 2007	Not completed. Still ongoing. Concept presented to the Portfolio Committee and the DST executive.
	Science missions and platforms Final copy in place for approval by Minister.	Astronomy geographical advantage strategy approved by Cabinet.	By October 2006	Concentrated on Astronomy Geographical Advantage Program (AGAP) Bill.
		Palaeo-sciences research development plan developed.	By July 2006	November 2006: Approved by Minister.
Research equipment plan developed.		By June 2006	Put on hold until an audit and needs analysis report was completed by NACI: August 2006. Elevated to an R&D Infrastructure plan still under development: September 2007.	



PROGRAMME 5

GOVERNMENT SECTOR PROGRAMMES AND COORDINATION

PROGRAMME 5 GOVERNMENT SECTOR PROGRAMMES AND COORDINATION

The focus of this Programme is to provide technology leadership and support to other government departments in relation to sector-specific research, development and technology and directed human capital programmes.

Highlights during the year under review included the following:

- *The Minister of Finance accepted the DST motivation for R&D tax incentives and this became effective from 2 November 2006.*
- *DST signed an R&D cooperation agreement with Airbus. This will introduce exciting biocomposite materials technologies and capacity development for South Africa.*

“These included research activities related to geomatics, the use of wireless technologies to facilitate connectivity, e-Education and Human Language Technologies”

ADVANCED MANUFACTURING TECHNOLOGY STRATEGY

The Advanced Manufacturing Technology Strategy (AMTS) was strengthened by completing an independent review of implementation successes and challenges which emerged during the first three years of its implementation. This introduces wider research and industry participation. An independent review of the Advanced Metals Initiative (AMI) confirmed the key research and development areas to be pursued in the fields of light metals, new metals and precious metals research. Titanium metals development has become a priority for this area.

SOCIAL IMPACT

Partnerships

Provision of support to provinces to implement technological interventions aimed at supporting provincial growth and development. In 2006/07, the Department completed a study relating to the cold-chain and post-harvesting technology needs of the fresh fruit industry. In addition, studies were initiated to research the development of the Marula industry in Limpopo and the technology requirements for enhancing the beneficiation of diamonds in the Northern Cape.



The Essential Oils initiative reached a critical threshold with more than 15 projects as a basis for SMMEs established in different parts of the country. Each of these sites is equipped

with an industry-sized distillation factory which produces high quality oil. (These oils are sold on local and international markets.)

- *Coordination of technical planning for key activities in the Fluorochemicals Expansion Initiative.*
- *The improvement of biofuels testing capability at the South African Bureau for Standards (SABS) was completed.*
- *Continued support to a research programme on the beneficiation of the by-products and co-products from biofuels production.*
- *Strengthening tooling capacity in South Africa through the expansion of the Institute for Advanced Tooling to a third site in South Africa (Walter Sisulu University in the Eastern Cape).*
- *Phase 1 of the Aquaculture Trout Initiative completed piloting initiatives and entered into Phase 2;*
- *The Hondeklip Bay abalone grow-out pilot has proven successful, indicating that commercial growth rates are achievable.*

Phase 1 of the Aquaculture Trout Initiative completed piloting initiatives and entered into Phase 2 with the emphasis on contributing to sustainable livelihoods for underprivileged communities. 25 small-scale commercial trout farmers were trained in the Western Cape, and organised into a Farmer Cooperative, which harvested 131 tons of trout in 2006. SMMEs will be increased to 35 with the capacity to produce 250 tons per annum in 2008. A 200-ton uptake-agreement for 5 years was recently secured with the private sector.

The Hondeklip Bay abalone grow-out pilot has proven successful, indicating that commercial growth rates are achievable. This has resulted in excitement in the private sector and local government to expand the pilot to an industry node. In partnership with the Department of Agriculture (DoA) and the Department of Water Affairs and Forestry (DWAF), the aquaculture initiative is piloting commercial grow-out of indigenous fish in inland fresh water. 50-ton grow-out pilots for tilapia and catfish in state-owned waterworks are at initial

stages, and early spring 2007 fingerlings will be introduced in high-density polyethylene (HDPE) cages.

Indigenous plants, scientifically-proven to possess medicinal properties, are being introduced as high-value crops for community propagation. The intention is to produce nutritional supplements, and support R&D pertaining to beneficiated products. Five initiatives are already underway, and DST is working with commercial nurseries to establish seed stock for expansion to commercial scale. 2,5 hectares of Hoodia have been grown in each of Onseepkans and Pella. African Ginger and Pelargonium Sidoides are being developed to 20 hectares each.

A new area is the application and demonstration of a comprehensive range of affordable technologies in housing construction for sustainable human settlements. In partnership with CSIR and Government sector departments, this activity seeks to demonstrate and mainstream a package of technologies into a wide range of service delivery programmes

PROGRAMME 5

GOVERNMENT SECTOR PROGRAMMES AND COORDINATION

aimed at enhancing quality of life. In partnership with the Northern Cape provincial government, the DST has installed solar geyser technologies in Kimberley, low-cost housing programmes and computer-based municipality management systems in Upington. The piloting of insulated concrete forms and wooden cement composite panels at Umsunduzi Municipality is currently underway. Rope pump technologies in water delivery service are being implemented at the Umhlabuyalingana Municipality.

DST has forged a partnership with HSRC and CSIR to mobilise the best of science and technology to assist local government planning. A novel methodological approach has been introduced for integrated development planning for transport and housing across a development areas that includes the Durban – Johannesburg corridor, the Greater Sekhukhune area and Johannesburg corridor and the Maputo – Witbank – Johannesburg area.

R&D TAX INCENTIVES

A working group of government Departments made recommendations to the Ministry of Finance to introduce R&D tax incentives. The Minister of Finance responded to the recommendations during his 2006 budget speech by announcing an increase to the existing 100% tax allowance treatment of R&D expenditure to 150%, added to which a favourable regime in the depreciation of R&D capital assets was introduced. The aim of the R&D tax incentives is to increase private sector expenditure on R&D so as to enable the country to reach the 2008 target of 1% of GERD/GDP. Amendments were made to the Income Tax Act and the incentive took effect from November 2006.

THE NATIONAL SCIENCE AND TECHNOLOGY EXPENDITURE PLAN

The DST was tasked by Cabinet with the responsibility of establishing a national Science and Technology (S&T) Expenditure Plan, as envisaged in the White Paper on Science and Technology. The S&T Expenditure Plan is a means of reporting projected national expenditure on scientific and technological activities (STAs) over the Medium Term Expenditure Framework (MTEF). The plan provides an important means of quantifying the expenditure on S&T activities.





Launch of the Knowledge Economy Forum

The Knowledge Economy Forum was launched on 13 February 2007 by the Director-General. The Forum comprises 19 S&T Managers from various Government Departments and its objectives are to:

- Provide a platform to discuss knowledge economy policy priorities for funding and implementation to the benefit of all sectors;
- Identify key performance indicators and discuss performance of the NSI as a whole, and focusing on specific sub-systems, e.g. the National Agricultural Research System (NARS), the National Health Research System, etc;

- Play an advocacy role for S&T policy within Government and ensure continued recognition of the knowledge economy within the Government cluster system and the National Treasury; and
- Provide a platform for Government Departments to share experiences, best practices and strategies with a view to suggesting interventions and addressing cross-cutting issues.

The Forum will focus on strengthening the capacity of scientific and technological activities within government departments; and identify research priorities/projects aimed at addressing Government priorities.

The DST, in collaboration with Treasury, structured a framework which will ensure that the S&T Expenditure Plan is incorporated into the Estimates of National Expenditure (as a table summarising the national expenditure on S&T per vote). In the 2006/07 financial year, the DST coordinated the first Government-wide survey on STA expenditure and a report on public funded scientific and technological activities was compiled.

The report indicated that Government spent approximately R5,6 billion on STAs in 2006. The five largest contributing Departments to STAs were the DST, Department of Minerals and Energy (DME), DoA, Department of Defence (DoD) and the Department of Trade and Industry (DTI). The report also revealed that the largest portion of STA expenditure related to Scientific and Technological Innovation at 72%, followed by Scientific and Technological Services at 18% and Scientific, Technical Education and Training at 10%.

The Integrated Research Information Management System

The 2004/05 survey published during 2006 indicated that national spending on R&D increased to 0,87% of GDP. As the custodians of the NSI, the DST recognises that S&T investment decisions could be enhanced with a strong information base on research activities funded from the public purse. In view of the aforementioned, the DST initiated a process to set up an integrated RIMS that will serve to gather and make available information on research activities within Science Councils and other Government research agencies. DST was allocated new funding in the adjustment estimate of expenditure during October to commence with this task.

The DST is also liaising with South African universities to implement a similar system for research activities and funding for the higher education community. This will enable monitoring of S&T capacity and research.

PROGRAMME 5

GOVERNMENT SECTOR PROGRAMMES AND CO-ORDINATION

SERVICE DELIVERY ACHIEVEMENTS:

The delivery achievements relating to the programme are tabulated below.

Sub-programme	Output	Measure / Indicator	Actual Performance against target	
			Target	Actual
Science and Technology for Economic Impact	Strategic government partnerships and directed science, engineering and technology programmes for positive economic results.	Number of new flagship programmes of advanced manufacturing technology strategy, rolled out.	3 programmes	<p>Independent review of the AMTS by a panel of local and international experts recommended that the rate at which new flagship areas are roll-out be reduced to at most one a year to ensure effectiveness and sustainability. Also recommended strengthening of the existing flagship areas. These recommendations were accepted.</p> <p>Initiated a new flagship programme aimed at developing a Nuclear Manufacturing Centre in South Africa.</p> <p>Based on an open call for proposals, sensor technology work under the advanced electronic flagship enhanced. In addition, national fibre research work enhanced under the advanced materials flagship.</p>
		Number of new flagship programmes under ICT research and development strategy.	At least 1 programme	<p>Planning and feasibility work finalised on the establishment of a Centre of Competence in the area of Information Security. Centre of Competence to be roll-out over the next MTEF cycle.</p> <p>As per the recommendations of the AMTS review report, planning work also undertaken on the development of a joint flagship using research results from the AMTS and ICT programme. Work underway to look at demonstrating the possible use of Unmanned Aerial Vehicles for purposes of environmental management, crowd management, and border patrol for roll-out over the 2007-2010 MTEF cycle.</p>
		Number of new Chairs of energy research and development under South African National Energy Research Institute established.	2 chairs	<p>Following an open call for proposals for the following Chairs of Energy Research:- Biofuels; Clean fossil fuels; and Energy-Efficient Appliances.</p> <p>Adequate proposals were only received in Biofuels and Clean Fossil Fuels. Biofuels Chair of Energy Research was awarded to University of Stellenbosch and the Clean Fossil Fuels Chair was awarded to the University of Witwatersrand.</p>



Sub-programme	Output	Measure / Indicator	Actual Performance against target	
			Target	Actual
Science and Technology for Economic Impact	Science, engineering and technology human capital development.	Science, engineering and technology human capital development. Support programmes and interventions implemented in provinces with low GDP.	2006/07	A support intervention aimed at strengthening science, engineering, and technology skills is the development of Fabrication Laboratories (Fablabs) in provinces with low GDP. Fablabs established and functional in the following provinces: Free State, Northern Cape, North-West. Planning at an advanced stage for Fablabs in Mpumalanga and Limpopo.
Science and Technology for Social Impact	Strategic government partnerships and directed science, engineering and technology programmes for positive service	Number of working agreements with social cluster Departments.	4 agreements by end March 2006	Agreements were signed with the following sector Departments and provincial governments Departments: DWAF; NDA; DEAT; Western Cape provincial Department of Environmental Affairs; KZN provincial Department of Agriculture; Dept of Housing
	Delivery results within the social cluster and the justice, crime prevention and security cluster.	Number of working agreements with the justice, crime prevention and security cluster Departments.	3 agreements by end 2006	An agreement was discussed at DG level with the Department of Defence. Discussions were initiated at official level with the Department of Safety and Security.
	Strategic programmes based on transfer of technology for sustainable livelihoods and aimed at improvement of quality of life.	Number of new technologies for sustainable livelihoods adopted.	2 new technologies by August 2006	Two new technologies in sustainable livelihoods Unit, in aquaculture were introduced. Three technologies were introduced in essential oils initiative. Three technologies were piloted in Sustainable Human Settlement.
	Research on social cohesion and integration	Number of research projects on science and technology best practice co-ordinated.	At least 1 research project by July 2006	Initiated a major project – Integrated Development Planning and Modelling, which is a new innovative model on development and settlement planning.
	Identification and dissemination of poverty reduction technologies designed to improve sustainable livelihoods.	Progress on development of nutritional supplements.	Phase 1 completed by end of 2006/07	Phase 2 essential oils initiative in Sustainable Livelihoods in now complete and Phase 3 has begun in 2007/08. In aquaculture Phase 1 has been completed and Phase 2 has begun.
		Joint poverty reduction projects with government Departments and municipalities identified	By September 2006	Joint poverty reduction projects with DWAF and DEAT and Western Cape provincial government were implemented.

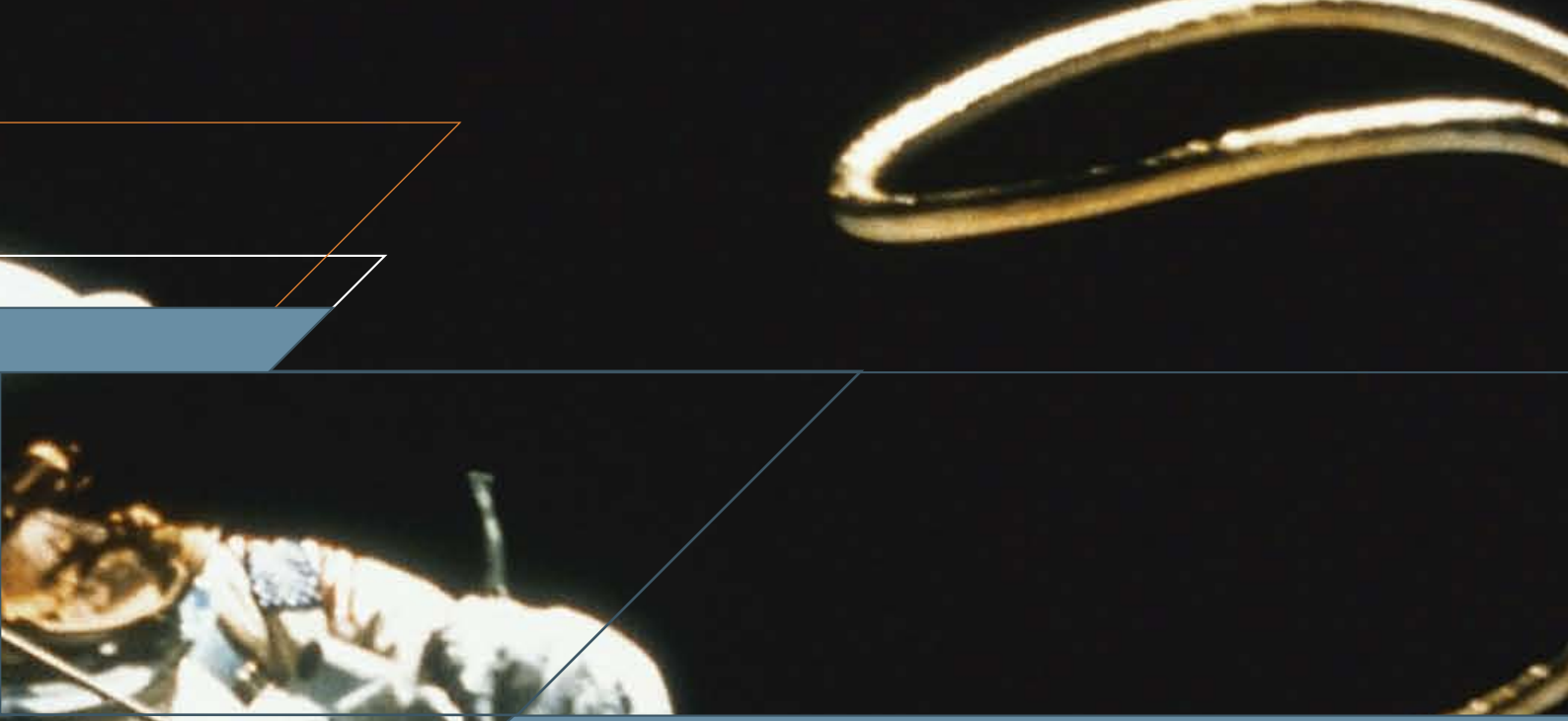
PROGRAMME 5

GOVERNMENT SECTOR PROGRAMMES AND CO-ORDINATION

SERVICE DELIVERY ACHIEVEMENTS:

The delivery achievements relating to the programme are tabulated below.

Sub-programme	Output	Measure / Indicator	Actual Performance against target	
			Target	Actual
Sector Research & Development Planning/ Co-ordination	Science and technology expenditure plan.	Publish government science and technology expenditure plan.	2006/07	A report has been approved for publication.
		Science and technology investment management system accessible to all public research and development institutions and users.	2006/07	Preliminary work on data specification and user requirements was completed. The funding to develop a system has been allocated in 2007/08 which is the year in which implementation will take place.
	Effective planning and efficient investment on science and technology by government departments.	Scope of the Science and Technology Systems Bill agreed and bill drafted.	2006/07	The drafting of the S&T Bill was postponed because the key element of the bill namely Intellectual property was developed independently. The DST submitted the bill for management of intellectual property from publicly funded research and development to Cabinet instead.
	Share good practices in sector-specific research and development planning.	Number of reports published on organisation and funding of research in specific sectors.	At least 2 reports	Sector studies on sugar research, pulp and paper research and agricultural research and extension were undertaken.



PUBLIC ENTITIES
REPORTING TO
THE MINISTER

The key public entities that report to the Minister of Science and Technology are listed below, along with brief reports on their performance during 2006/07. These entities produce their own annual reports.



HUMAN SCIENCES RESEARCH COUNCIL (HSRC)

Highlights of the HSRC for the 2006/07 Financial Year

During the year under review, the HSRC engaged in a wide range of projects and policy initiatives and close to 240 projects were underway at one time or another.

The research undertaken by the HSRC has been configured into five large interdisciplinary research programmes, five cross-cutting research units and two national priority initiatives. The cross-cutting units and the initiatives have been established to interactively contribute to, as well as draw from the five research programmes in order to integrate and enhance the work of the HSRC as a whole.

Research Programmes

- **Child, Youth, Family and Social Development (CYFSD)**

In May 2006, CYFSD won a National Science and Technology Forum (NSTF) award for making an 'outstanding contribution to science, engineering and technology'. CYFSD is the only social science group ever to win an NSTF award.

In July 2006 in Banjul, heads of state of the African Union (AU) adopted the African Youth Charter, commissioned by the AU and compiled by CYFSD.

In collaboration with colleagues in higher education and following an intensive policy and charter review, CYFSD published several ground-breaking books, including *Zip.zi my brain harts*: by award-winning photographer Angela Buckland, together with Kathleen McDougall, Leslie Swartz and Amelia van der Merwe from CYFSD; and *Disability and Social Change: A South African Agenda*, edited by Brian Watermeyer, Leslie Swartz, Theresa Lorenzo, Marguerite Schneider and Mark Priestley.

“In May 2006, CYFSD won a National Science and Technology Forum (NSTF) award for making an ‘outstanding contribution to science, engineering and technology’”



CYFSD is the first research programme in the HSRC to undergo a five-year external evaluation. The review panel, which convened in February 2007, scrutinised publications, heard presentations by staff and interviewed clients, donors and collaborators.

- **Democracy and Governance (D&G)**

D&G published three books on the critical areas of land, economy, women and democracy. These publications appealed widely to activists, academics, researchers, students and policymakers. The first publication, *Voices of Protest: Social Movements in Post-apartheid South Africa*, by Ballard, Habib & Valodia (eds), (Scottsville: University of KwaZulu-Natal Press, 2006), analyses the struggles and social movements of the poor.

The second publication, *The Land Question in South Africa: the Challenge of Transformation and Redistribution*, by Ntsebeza, Lungisile & Hall, R (eds), (Cape Town: HSRC Press, 2007), debates issues of land dispossession among blacks under apartheid and post-apartheid land redistribution strategies.

The Human Rights lecture series, focusing on salient and topical human rights issues and problems endemic to the African continent, managed to provoke debate about human rights among key decision-makers and civil society and facilitate dialogue among various sectors and role players within the South African context.

The Programme also completed a report which assesses the relationship between Chapter 9 Institutions (i.e. state institutions supporting constitutional democracy) and civil society. Undertaken by D&G researchers Mcebisi Ndletyana, Geoffrey Modisha, Diana Sanchez and Nadia Sanger and external partners, the report was submitted to Parliament in January 2007 as background information for the *ad hoc* Multiparty Parliamentary

Committee currently examining the operations and functions of these institutions.

- **Education, Science and Skills Development (ESSD)**

The Department of Labour commissioned ESSD to lead a research project to the value of R20 million on scarce and critical skills over the next two years. The HSRC will lead the consortium in partnership with the Development Policy Research Unit, University of Cape Town, and the Sociology of Work Programme, University of the Witwatersrand.

- **Social Aspects of HIV/Aids and Health (SAHA)**

The year under review saw the completion of the project on Care of Orphans and Vulnerable Children (OVC) in Botswana, South Africa and Zimbabwe. The project provided an excellent case study of 17 communities of practice, indicating a direct link between research and implementation of OVC interventions.

SAHA was awarded a US\$3,15 million grant for a five-year project, titled *Programme to Improve the Capacity of an Indigenous Statutory Institution*, to enhance monitoring and evaluation of HIV/Aids in the Republic of South Africa by the Centre for Disease Control and Prevention (CDCP) and the US Presidential Emergency Programme for Aids Relief (PEPFAR).

The overall goal of the project is to develop capacity to generate objective, verifiable and replicable HIV/Aids-related data to support South Africa's efforts in the prevention, treatment and care of the pandemic.

The results of previous SAHA research reports were used extensively in the finalisation of the 2007 to 2011 National Strategic Plan on HIV, Aids and STIs.

The results of an evaluation for the national Department of Health on technical support for monitoring and evaluation of the delivery of primary healthcare, including HIV/Aids programmes, were used to strengthen the delivery of these services and support the development of partnerships between Government and non-profit service organisations in the provinces of Gauteng, Limpopo, KwaZulu-Natal, Eastern Cape and the Western Cape.

- **Urban, Rural and Economic Development (URED)**

Clean drinking water remains an ongoing challenge in the disadvantaged sectors of the South African population. In light of this, the Citizen Voice project has piloted a set of tools and teaching materials to effect solutions. The development of Citizen Voice provides routes to effective participation in the regulation of water services for both municipalities and communities.

The tourism and development initiative, launched in April 2006, is now firmly established with three projects having been completed during the financial year. These involved close collaboration with the national Department of Environmental Affairs and Tourism for evaluation of pro-poor tourism initiatives, and an assessment of an NGO-managed community-based tourism route running from South Africa into Mozambique.

“Clean drinking water remains an ongoing challenge in the disadvantaged sectors of the South African population. In light of this, the Citizen Voice project has piloted a set of tools and teaching materials to effect solutions”

Cross-cutting Research Units

- **Knowledge Systems (KS)**

Knowledge Systems is now in its second year of operation and has displayed both cohesion and productivity. Its three components, Socio-economic Surveys (SES), the Geographic Information Systems (GIS) Centre, and the Centre for Science, Technology and Innovation Indicators (CeSTII), have all contributed to this success.

SES conducts national surveys and provides technical research support in survey design, data management and statistical analysis to other research programmes in the HSRC. SES is currently analysing data gathered over three years for the South African Social Attitudes Survey project which provides a rich platform for in-depth research of societal dynamics. SES, through its client surveys, contributes vastly to an improved understanding of the dynamics of service delivery. The GIS Centre has been instrumental in developing the



African Network for Social Accountability, a World Bank funded project across African countries. In addition, the GIS Centre is constructing a new nationwide Master Sample by means of aerial photography that will serve as the source of multiple household samples for a variety of inquiries. CeSTII completed the 2004/05 R&D Survey and the fieldwork for both the 2002/03 Innovation Survey and 2005/06 R&D Survey.

Cumulatively these surveys provide the means for Government to monitor and steer the NSI. The R&D Survey data provided the evidence base for the introduction of an enhanced tax allowance for firms that conduct R&D. In addition, CeSTII managed the service providers of the Tracking R&D Expenditure project of the NACI, requested by Cabinet.

- **Gender and Development**

Research on gender and transport was strengthened by the co-hosting of the First International African Conference on *Gender, transport and development: Bridging the divide between development goals, research and policy in developing countries*, in August 2006.

The DST funded an impact study on the commitment and attitude of educators to gender equality, Millennium Development Goal 3 (MDG), with reference to girls' access to and participation in SET learning.

- **Policy Analysis Unit (PAU)**

PAU serves as a focal point for the HSRC's efforts to support the networking of the social science sector in South Africa. The 2006 South African Social Science Conference was organised in conjunction with the Social Science Network of South Africa, the AISA and Young Entrepreneurs for the New Partnership for Africa's

Development (YENEPAD). The conference sought to address the question: What does it mean to do social sciences in an African context?

- **Social Aspects of HIV/Aids Research Alliance (SAHARA)**

Memoranda of Understanding (MoU) have been signed with NEPAD and UNAIDS to formalise the SAHARA partnerships. In East and Central Africa, SAHARA has been developing strategies to translate research into policy, focusing on Kenya, Uganda and Tanzania. A draft document was presented at a satellite meeting in Buenos Aires (Argentina) in 2006.

SAHARA successfully organised a satellite session at the Toronto International Aids Conference in August 2006 to reflect critically on the complexity of the HIV/Aids epidemic in sub-Saharan Africa, and the challenges key role players face as they respond to these.

In October 2006, SAHARA provided technical support to the BASICS programme (Family Health International) and to UNICEF, Dakar, for a study on maternal and newborn health-related issues, including HIV/Aids. Technical support was provided to the World Bank (Senegal office) and the Senegalese National Aids Programme. SAHARA forms part of the Organising and Scientific Committee of the next ICASA Conference which will be hosted in Dakar during 2008.

Together with the working partners of the Atlantic Centre of Excellence for Women's Health, SAHARA facilitated the Commonwealth Secretariat and the Open Society Initiative for Southern Africa, an off-site satellite session to explore why women are consistently absent from research, policy and programmes and to seek ways to ensure that women's voices do not go unheard.

National Priority Initiatives

- **Employment, Growth and Development Initiative (EGDI)**

EGDI has established an Employment Policy Network to draw together 'communities of practice' through an interactive web-based service, www.employment-policy.net. The website aims to coordinate the best available research and information on employment and inclusive growth in a developing country context. The International Labour Organisation, the African Economic Research Consortium, and the Consumer Unity and Trust Society International are founding partners of the network.

- **National Education Quality Initiative (NEQI)**

The Royal Netherlands Embassy (RNE) awarded a grant of R69 million to NEQI to manage a five-year programme on improving literacy and numeracy skills in South African schools. The programme was developed in collaboration with the Department of Education and several research partners.

The programme commenced in January 2007 and will end in December 2011. In collaboration with UNICEF and officials from the Eritrean Ministry of Education, NEQI provided technical assistance to the Eritrean Ministry of Education for the establishment of a national framework for monitoring learning achievement in Eritrean schools, and the development of capacity of staff for its implementation.

NEQI also provided technical assistance to UNICEF education officers in the eastern and southern African region for the development of indicators so as to monitor the implementation of the Child-Friendly Schools (CFS) framework. NEQI hosted a series of capacity-building workshops on advanced data analysis techniques, education change and school reform in collaboration with the University of Twente, Netherlands. The workshops were funded by the Netherlands Organisation for International Cooperation in Higher Education, and were attended by HSRC researchers as well as staff from the Department of Education.

“The CSIR coordinates the Light Metals Development Network which forms part of the Advanced Metals Initiative, with the objective of providing active support to the growth and sustainability of an international downstream South African light metals industry”



COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH (CSIR)

Highlights of the Council for Scientific and Industrial Research for the 2006/07 Financial Year

Emerging Research Area (ERA)

The CSIR has established its first Emerging Research Area (ERA) in nanoscience, to conduct research that is expected to result in new discoveries in the properties and applications of nanomaterials.

The ERA was recently selected as one of two DST-funded centres of innovation in nanotechnology, and as such will serve as a platform for the implementation of the South African National Nanotechnology Strategy.

The centre aims to be a world player in the discovery and development of new materials and material properties in this sphere within the next five years.

The specific research focus is on the fabrication of novel nanostructures materials, synthesis and characterisation of quantum dots, polymer nanocomposites, application of nanomaterials in the energy sector, and materials modelling and simulation.

The centre is developing an extensive network with local and international universities and research organisations, has a strong focus on human capital development, and collaborates closely with industry to ensure successful outcomes and impact of its research activities.

Progress in Advanced Materials

Advanced materials are viewed as the cornerstone of new and improved aerospace and automotive systems. In this regard, the CSIR is actively involved in the processing of aluminium, magnesium and titanium for these and other high-technology industries.

The CSIR coordinates the Light Metals Development Network which forms part of the Advanced Metals Initiative, with the objective of providing active support to the growth and sustainability of an international downstream South African light metals industry. This is a joint initiative between the CSIR, Mintek and Necca. The CSIR is also an active founder member of the Rapid Product Development Association of South Africa, which looks at new and novel technologies for use in advanced manufacturing.

Smart Structures

The CSIR is also involved in the development of structures which, due to their micro-structural design or through embedded devices, can react intelligently to load, heat, or damage.

Creating Tools to Enhance Service Delivery

The Urban Dynamics Laboratory (UDL), a multi-year research initiative of the CSIR launched in 2006, is working towards an improved understanding of the dynamics of urban and regional socio-ecological systems (systems created by the interactions among humans, and between human populations and their environments).

The laboratory's main objective is to create tools and technologies to improve spatial planning and enhance the

“The CSIR has established a new geoprocessing chain that will be able to process 50% more remote sensing images received from numerous earth observation satellites orbiting the earth”

understanding of spatial dynamics in support of national efforts to improve public service delivery.

The latter is a key requirement to enable Government to meet its core social and economic objectives of halving the country's rates of poverty and unemployment by 2014. Envisaged research outcomes include, among others, assessment of the possible impact of drivers such as crime, insecurity, increasing ambient intelligence (computing and networking technology unobtrusively embedded in human surroundings), changing demographic patterns, resource consumption and climate change on the resilience of socio-ecological systems, and modelling of various types of value chains and flows (including flows of ecosystem services) and the manner in which human activities compete to control these factors.

The laboratory will bring together a cross-institutional team following a trans-disciplinary approach, where cooperation extends between and across conventional disciplinary boundaries.

The facility will include a range of data sets, tools for modelling and simulation of systems interactions and spatial changes, and the necessary hardware to support these tools.

Research relating to Ecological Drivers of Cholera

Currently cholera outbreaks are reported in 52 countries and more than 90% of all cases reported are from Africa. According to reports, 106 389 cholera cases were reported in South Africa in 2001, with a total of 229 lives lost. CSIR researchers are presently investigating outbreaks of cholera in Beira, Mozambique.

The CSIR research focuses on the ecological drivers of the disease and not on the social conditions promoting outbreaks. Previous research conducted in other parts of the world, notably Bangladesh, suggests a primarily marine driver of cholera outbreaks. Preliminary findings of the Beira research indicate that the estuary as well as inland waterways and aquatic sediments are reservoirs for the bacteria.

Both of the strains that are responsible for epidemics in the world, namely V. cholera 01 and 0139, have been identified in the environmental samples. V. cholera 0139 has never before been reported to occur in Africa's natural environment. It was also positively identified only in the sea-based water



samples and on fish scales. Patterns and consistencies between environmental factors and reported cholera cases have been established and the work will contribute towards anticipating and mitigating future cholera outbreaks.

CSIR Bioscience Expertise in European Union Funded Projects

The CSIR recently joined the European Microbiocides Consortium (EMPRO), a research network investigating and developing new microbiocides for the prevention of HIV-infection. A microbiocide is any compound or substance which purpose is to reduce the infectivity of microbes, such as viruses or bacteria.

Novel Q: In this project that investigates innovative processing methods to extend the shelf life of selected foods, the CSIR lends its expertise in extracting underutilised proteins from grains and developing edible food coatings.

ANTIMAL: This consortium-based project aims to produce the next generation of anti-malarial chemotherapeutics. It is led by the Liverpool School for Tropical Medicine, while the CSIR is tasked to develop potential anti-malarials using natural products isolated from South African flora as the lead molecules.

New Medicines for Tuberculosis (NM4TB): This project aims to successfully develop new drugs for the treatment of TB through an integrated approach. The team comprises some of Europe's leading academic TB researchers, a major pharmaceutical company and three SMEs, all with a strong commitment to discovering new anti-infective agents.

The CSIR was requested to join the consortium on the basis of its experience and IP on the enzyme *Mycobacterium Tuberculosis* Glutamine Synthetase – one of the key target proteins - and the design and synthesis of inhibitors to this enzyme.

Research on the Motion of Atoms

The CSIR is collaborating with Dutch-based Laser Centrum Vrije Universiteit (LCVU) with a view to enhancing its femtosecond laser science capability. The CSIR has identified this field of research as one of its emerging research areas. A femtosecond laser pulse is a pulse with duration of 10-15 fs; that is 0,00000000000001s. In other words, the duration of this light pulse is to a minute what a minute is to the age of the universe. The short duration of femtosecond laser pulses allows for the study of motions of atoms and electrons.

The impetus for studying the motion of atoms and electrons derives from many areas of S&T. The ability to view chemical and biochemical processes is a prerequisite for steering reactions, while insight into the dynamics of electrons and band gaps in semi-conductor devices is crucial for speeding up electronic devices. The research covers femtosecond chemistry, biophotonics, solid-state laser sources and high resolution spectroscopy. In a complementary project, the CSIR is working with the University of Stellenbosch and iThemba Labs to develop a high-peak power laser system to be used in nuclear physics, particularly in particle acceleration.

New Remote Sensing Data Management System

The CSIR has established a new geoprocessing chain that will be able to process 50% more remote sensing images received from numerous earth observation satellites orbiting the earth. CSIR remote sensing specialists commenced the technical implementation of this task, from the development of the necessary processing models to final hardware architecture, in September 2006.

“The CSIR and the South African National Energy Research Institute (SANERI) have joined forces to further R&D in the field of clean coal technology”

The system code to automate several processes - including the multi-spectral band merge, pan-sharpening, ortho-rectification and mosaicking - was completed in November 2006.

The selected hardware to provide the processing results required was procured in February 2007. Although the processing results were limited, most of the SPOT 5 satellite data was geometrically corrected by using this system. The complex technical learning for the team was of tremendous value to achieve the final implementation of the envisaged South African Earth Observation System (SAEOS) architecture, as expected by the DST.

A new multi-government licence agreement negotiated by the CSIR is giving South Africa's government departments, research institutions and academia three years of direct, open access to detailed information from the SPOT constellation of five earth observation satellites.

The agreement with SPOT Image runs until March 2009 and allows data to be received directly from these satellites. Applications include spatial analysis of land use, particularly informal settlements; monitoring of crops and yields to assess levels of food security; and alignment of land-use classes with geographically-coded crime data to illustrate spatially the relationship between crime incidents and changes in the environment.

Supporting Safe Port Operations

The CSIR has developed a low-cost video system to support safe port operations. The system automatically provides additional visual information and early warning to harbour masters, vessel traffic controllers and port operators. In the absence of prominent port control buildings, cameras can be placed strategically to cover the entire port, make all views easily accessible and recordable, and raise the alarm on potentially dangerous or unsafe conditions. The system is linked to the CSIR regional office in Stellenbosch to facilitate further development, while images can also be saved to a local network for viewing. Technologies similar to Harbour Watch can be applied to key environmental monitoring points to maintain visual surveillance of oil spills or dredging plumes. Linked to prototype wave, wind and current measurements, spatial data are georeferenced and can be used to calibrate numerical models.



Innovative Radar Technology for Persistent Surveillance

The CSIR's AwareNet radar research focuses on the automatic detection and classification of small boats at all ranges and in all sea states and weather conditions. Researchers were challenged by radar echoes from small boats that are, in the presence of radar reflections from the ocean surface, only detectable with exceptionally long radar dwell times. The hypothesis is that a staring beam array radar, a concept currently being developed for the long-range AwareNet radar sensor, will be able to achieve significantly improved detection and classification performance in comparison to current maritime surveillance radar technology. Using the CSIR-developed wideband Fynmeet radar measurement facility, an extensive measurement campaign was conducted during 2006 near Cape Agulhas, the southernmost tip of Africa.

Calibrated radar-reflectivity measurements were recorded along with measurements of the prevailing weather conditions, the wave heights and directions and the positions and orientations of three different kinds of small boats. Data sets were recorded over two weeks during which a variety of weather and oceanic conditions were encountered. The CSIR processed this rich set of data in collaboration with radar specialists at the University College London and the University of Cape Town, and was able to respond positively to a number of research questions. In addition, international radar specialists consider the recorded data set to be world-class; hence the CSIR's decision to make it globally available to researchers in this field. This research will be utilised in the development of the AwareNet radar technology demonstrator.

Cleaner Coal

The CSIR and the South African National Energy Research Institute (SANERI) have joined forces to further R&D in the field of clean coal technology. Nearly 71% of South Africa's primary energy and 88% of electricity are derived from coal. It is anticipated that coal will remain the main energy source for at least another 75 years. Coal gasification is regarded as the most likely technology to replace conventional coal combustion for power generation in the 21st century. With coal gasification, power station efficiencies can be improved from the current 35% up to 55%. The research is expected to hold considerable benefit for the South African economy.

By-products from Mine Wastewater

The CSIR has signed a contract with Anglo Coal for erecting a demonstration plant for the recovery of products from waste gypsum, through the patented GypSLiM process. Gypsum is a crystalline mineral of hydrated calcium sulphate. The GypSLiM process is also set to change the present practice of converting imported sulphur to sulphurous waste in countries such as South Africa, Zambia and the DRC, through its ability to extract and recycle sulphur from various effluents.

Improving Pulpwood Value

CSIR researchers have been working on a project aimed at developing new ***Eucalyptus*** hybrids to significantly improve the pulpwood value of this forest resource. ***Project Pulp*** aims to develop improved wood quality and high pulp yielding *Eucalyptus* through inter-specific hybridisation, thereby adding value to the resource and redressing a strategy that neglected wood quality in favour of tree growth in the past. New species crosses will be

made between high-density, high pulp-yield species and advanced generation-rapid growth material suited to South African conditions. **Project Pulp** is a five-year research partnership between the CSIR and NCT Forestry Co-Operative Ltd, receiving co-funding from the Innovation Fund.

Design of Long-range Day and Night Camera

The CSIR has designed a state-of-the-art, long-range day and night camera, dubbed Cyclone. The camera is fully digital, remote controlled and boasts precision zoom. Its observation range is up to 30 km. The development of the camera stems from a tactical requirement of the South African National Defence Force (SANDF) for long-range surveillance for the purposes of targeting and observation. The benefits of using this technology in the Cyclone camera include improved performance under twilight and night conditions, as well as under artificial illumination conditions.

Top Award for Portable Landing Light System

A CSIR-developed portable landing light received an award at the International Soldier Technology 2006 Forum in the category **Best Operational Assessment for New Equipment** (one of six categories). The equipment was designed and developed for peace-keeping forces obliged to move into areas by air at night or in poor light. The system has been evaluated, declared effective, produced and used by the SANDF. The primary users have ordered the system and numerous other potential users have expressed an interest.

Geospatial Technologies

The harnessing of geospatial technologies for disaster warnings and disaster management has allowed the CSIR to achieve beneficial outcomes in the public domain. The public broadcaster, the South African Broadcasting Corporation (SABC), screened a fire map of active fires from the Advanced Fire Information System (AFIS) for almost a year, once a week after the evening news cast on two channels.

The SABC is the first public broadcaster in the world to screen fire maps. AFIS is a joint project between the CSIR, Eskom and the Government. A new technology demonstrator was developed during the year under review

“The equipment was designed and developed for peace-keeping forces obliged to move into areas by air at night or in poor light”



which allows the public to access satellite information on severe storms through their cellular phones. Developed by the Space Science and Engineering Group of the University of Wisconsin-Madison, the technology demonstrator was customised by the CSIR for local conditions to provide near real-time information on clouds, rainfall, wind and fires. The CSIR plays a leading role in the Group on Earth Observations Sensor Web Enablement Task Team.

Support for National Spatial Development Perspective

The Presidency has launched a national pilot project to contextualise and apply the National Spatial Development Perspective (NSDP) within districts and metros. The project forms part of Government's effort to strengthen the integrated development planning process and promote shared analysis and planning between the three spheres of Government. The CSIR manages the project on behalf of the Presidency and its key partners, and provides technical guidance relating to the development of planning technologies to support the project.

Lessons generated through the first phase of implementation will be utilised to identify key issues, inform strategic planning processes and instruments in Government, and create a platform for the implementation of the framework in all district and metropolitan municipalities by 2008/09.

Sensor Technology Successes

Korea became the first international recipient of a joint development by the CSIR and Eskom, the multi-spectral imaging system (MultiCAM). The Korea Electric Power Research Institute (KEPRI), a division of the South Korean electricity utility, is the first international customer to take delivery of a MultiCAM unit. KEPRI will utilise the MultiCAM to enhance its research programmes into high-

voltage electricity transmission systems. For the first time ever, a single instrument can detect and visualise UV discharges, as well as IR thermal gradients, giving the user a comprehensive picture of the state of high-voltage installations. The MultiCAM system already boasts several awards as the most innovative research project and it is expected that market acceptance of the product will meet with the same success as its sister product, the *caroCam*, which is sold in more than 22 countries across five continents. Over 70 daylight UV/Corona detection systems have been sold to date.

Platforms for Collaboration

- **Laser Specialists from Developing Countries Meet European Counterparts**

In a European Union (EU) project aimed at linking laser specialists from the developing world with their European counterparts, the CSIR coordinates the participation of developing nations, including India, China and Brazil. The ultimate aim is to establish new international teams of excellence in the field of laser-based applications. In Project EUDEVLAS, a database of competencies and research areas is established. European researchers gain exposure to the production problems and new research approaches facing their counterparts in emerging markets.

On the other hand, EUDEVLAS affords researchers from emerging markets access to radically different, high-power, high-beam quality laser sources. Combining these facets, the project has the potential to stimulate research and innovation in laser applications, thereby radically changing the face of future manufacturing, as laser technology is a leading tool in this regard. The two-year project commenced in October 2006 and was awarded under the auspices of the EU Sixth Framework Programme.

The Laser Zentrum Hannover, a leading laser centre in Germany, represents EU interests in this project.

- **Furthering Collaboration between EC and South Africa**

The CSIR, as a participant in the European-South Africa Science and Technology Advancement Programme (ESASTAP), contributes significant experience within project consortia, understanding the needs of scientists and S&T institutions, operational aspects and challenges, as well as financial management of framework programmes. The aim of ESASTAP is to enhance the support and assistance available to South African and European researchers through enhanced networking and partnering.

- **Research in High Performance Computing**

The CSIR has implemented significant DST-funded cyber-infrastructure projects as enablers of world-class research in the country and on the sub-continent. The organisation has been responsible for establishing a state-of-the-art facility for the DST-funded high performance computing capability in Cape Town. The CHPC promises to be a success story of research infrastructure, which will place South Africa at the forefront of ICT developments.

It is also committed to fostering a critical mass of HR in partnership with local and global commercial sectors to create further employment opportunities. Three eminent flagship projects in collaboration with tertiary education institutions focus on long-term African climate-ocean weather prediction, space weather prediction and simulations towards designing energy-saving batteries. The contract for the South African National Research Network, a large-scale cyber-infrastructure for South Africa, has also been signed, and work will commence in the new financial year.

“The CHPC promises to be a success story of research infrastructure, which will place South Africa at the forefront of ICT developments”

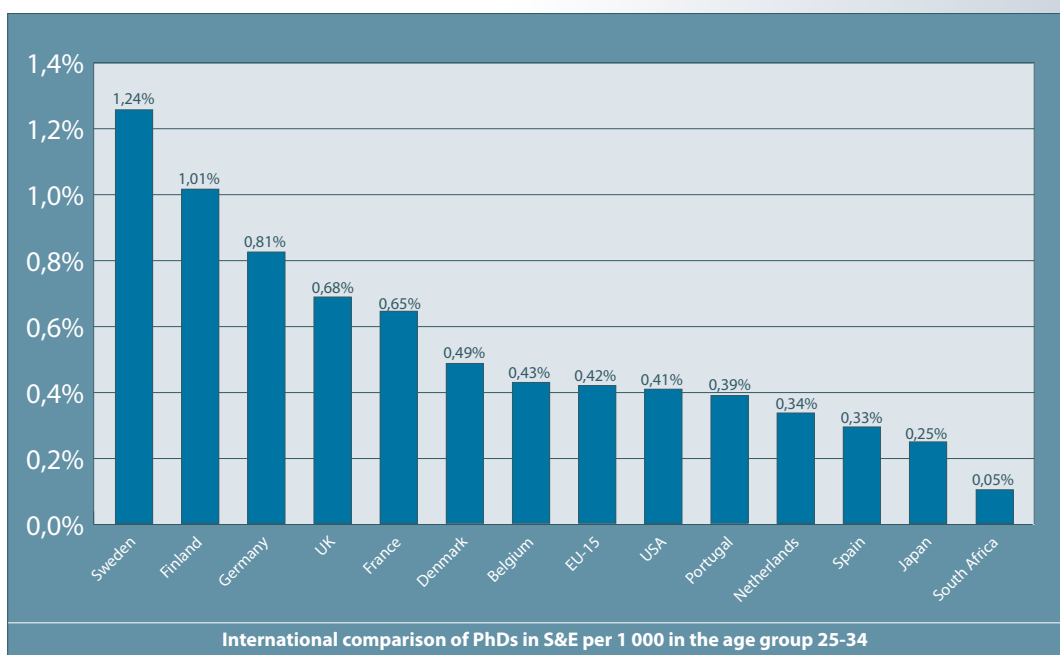


THE NATIONAL RESEARCH FOUNDATION (NRF)

Highlights of the NRF for the 2006/07 Financial Year

Increasing S&T Human Capital

The NRF has adopted the “PhD as a driver” motive in order to address the shortage of highly skilled people in the NSI. A large number of high-quality graduates are regarded as key drivers within an innovative and entrepreneurial knowledge society. Doctoral graduates provide ‘platforms’ upon which societal and technical progress, innovation and business performance can flourish to eventually make a real difference in the lives of all South Africans. South Africa’s performance in producing PhDs compared to other countries is cause for concern.



The higher education system produces about 1 200 Doctoral students per annum (2005). In order to alter the *status quo*, South Africa needs to aim for a target of a five-fold increase in its PhDs production over the next 10-20 years. This has to be accompanied by mechanisms to attract the available pool of undergraduates into proceeding with Master’s, PhD and post-doctoral studies.

During the 2006/07 financial year, the NRF contributed to the development of HR through the following programmes and facilities within the NRF-fold:

- **Human Resource Development through SAASTA**

Various programmes and initiatives were undertaken by SAASTA aimed at establishing a new generation of scientists through education, science awareness and science communication. The outreach activities of the South African Large Telescope provided an excellent opportunity for generating a sense of excitement about science in young people.

- **Science Education**

The science education thrust rendered good results:

- Learner participation in the National Science Olympiad increased to 17 856 and the top three achievers were sponsored to attend the London International Youth Science Fair.
- A Mathematics Enrichment Programme was presented for Further Education and Training (FET) educators. 3 10 FET educators were trained in four provinces (Mpumalanga, Gauteng, and Limpopo and KwaZulu-Natal).
- Science Camps for learners with potential were presented. Four-day Science Camps were held in KwaZulu-Natal, Free State, Eastern Cape and North West and 202 learners were reached.
- National Science Week (DST-funded) was implemented in nine provinces at 43 sites and participation increased to 204 950.
- The Public Understanding of Biotechnology (PUB) programme provided biotech support for biology educators and learners.
- Science materials and resources were developed.
- SET careers were promoted.

- **Creating Science Awareness**

The science awareness thrust made effective use of infrastructure to support school science and career awareness.

- 5 804 learners and 329 educators visited the museum.

“The science awareness thrust made effective use of infrastructure to support school science and career awareness”



- Science shows and curriculum-based experiments were offered at events such as Science Camps, Mintek Open Day, Sacred Heart Mindworks and National Science Week.
- 15-30 learners attended the Techno Youth Workshop each week during school holidays.
- The number of learners and educators who attended SeeScience/SciBridge lectures has increased.

The science awareness thrust took responsibility for participation in science festivals such as SciFest (Grahamstown), Scitech (Pretoria) and the Sasol Techno (Sasolburg).

Travelling exhibitions promoting science awareness included:

- SASOL TECHNO-X (SciQuest, StarLab, PUB Careers Exhibit and Science Shows, Free State);
- SCOPEX (StarLab, Johannesburg);
- Sasol SciFest 2007(SciQuest, StarLab (850), Clone Zone PUB Careers Exhibit);
- Old Mutual/MTN Science Centre (SciQuest, Kwa-Zulu-Natal); and
- The DNA 50 Exhibit (Sci-Bono, Johannesburg).

- **Science Communication: Communicating the Advances of Science and Scientific Research to Public Audiences**

Science communication was promoted through the following:

- Producing youth magazines, popular media, drama;
- Building capacity in science writing and reporting;
- Science communication competitions;
- Communicating research to public audiences;

- Public lectures/engagement; and
- Facilitating communication networks and products.

Science Awareness through the National Facilities:
The National Research Facilities recorded the following:

- 4 638 schools participated in outreach activities, of which 1 240 were disadvantaged schools;
- 3 954 educators were reached through various programmes;
- Nine community projects were implemented mainly in disadvantaged communities; and
- 667 650 visitors were received by the National Research Facilities.

Human Resource Development by RISA

Student support initiatives included:

- The grant holder-linked bursary values at Master's and Doctoral level were maintained at R20 000 and R30 000 respectively due to budget constraints;
- The total number of students supported through grant holder-linked bursaries increased by 4% to 4 132 (3 970 in 2005/06);
- The total number of students supported through the core grant increased to 4 678 (4 450 in 2005/06);
- The number of black students supported increased by 3% to 2 671 (2 603 in 2005/06), now constituting 57% of the total number of students supported through the core grant;
- The number of women students supported increased by 11% to 2 414 (2 181 in 2005/06), constituting 52% of all students supported from the core grant;

- More than 1 197 (1 179 in 2005/06) Doctoral students were supported; the highest number per annum to date;
- Black doctoral students constitute 49% of the total of doctoral students supported; and
- The number of post-doctoral grants increased by 12% to 220 (197 in 2005/06).

Support for Researchers

- The number of researchers supported through the core grant increased by 4% to 1 680 (1 617 in 2005/06);
- The number of black grantholders increased by 4% to 494 (473 in 2005/06) and constitutes 29% of the total researchers;
- The number of women grantholders increased by 12% to 670 (600 in 2005/06) and constitutes 40% of the total researchers; and
- The average grant size to grant holders increased by 13% from R91 500 to R10 374.

Development of Staff at Higher Education Institutions

- 134 staff members completed their degrees, 65 and 69 at Master's and Doctoral level respectively.

Human Resource Development by the National Research Facilities

The National Research Facilities contributed collectively to the development of HR through the following activities:

- Experiential training was provided to 436 (213 in 2005/06) students who spent time at and participated in the work of the Facilities as part of their formal training;
- Vocational holiday employment was provided to 96 (40 in 2005/06) students;
- 103 (205 in 2005/06) students participated in summer schools/practical sessions/vacation schools; and

“The NRF (RISA and the National Research Facilities) runs special mentoring schemes to develop excellence in research which is eventually tested through the evaluation of research outputs of researchers within a global context”



- Short-term formal teaching involved 60 research staff members (on par with the 2005/06 financial year).

In addition, the National Research Facilities supported Master's and PhD training by means of the following initiatives:

- 319 (291 in 2005/06) students involved in post-graduate training used the facilities provided by the National Research Facilities;
- 167 (101 in 2005/06) Master's and PhD students were supervised by staff of National Research Facilities;
- 56 (61 in 2005/06) research staff members were involved in supervision/co-supervision of post-graduate students; and
- Five (4 in 2005/06) graduate schools were maintained and 43 (34 in 2005/06) students complied with the requirements for obtaining their degrees

R&D Staff Capacity Building

- 29 (33:2005/06) staff members enrolled for higher degrees, of which 12 for Master's and 17 for PhD;

- 23 (17 in 2005/06) new post-doctoral posts were created;

- Three (2 in 2005/06) staff members spent between 3-12 months as visiting fellows elsewhere; and

- 13 (12 in 2005/06) National Research Facility staff members were appointed and co-sponsored by HEIs.

Support of Knowledge Generation

The NRF (RISA and the National Research Facilities) runs special mentoring schemes to develop excellence in research which is eventually tested through the evaluation of research outputs of researchers within a global context. South Africa now has 1 604 rated researchers at HEIs and museums, of which 27% were A and B-rated. Black and women rated researchers account for 13% and 25% of the total researchers at HEIs and museums. Other modes of quality assurance involved peer reviews and assessment panels.

Research Outputs

Scientific outputs through RISA stakeholders in Focus Area and Development Programmes

Outputs	Focus Area		Development Programmes		Total	
	2005/06	2006/07	2005/06	2006/07	2006/07	2005/06
Peer-reviewed publications	3 024	1 767**	541	308**	2 075	3 565
Books	105	263	5	15	278	110
Chapters in books	284	81	48	**	42	332
Published conference proceedings	536	217	306	**	217	842
Patents	*	8	*	4	12	*
Products and artefacts	*	98	*	13	111	*
Articles in non-refereed journals	*	45	*	12	57	*
Refereed articles published	*	333	*	127	460	*

* Data not complete/available due to the transition from one system to another: reliable info will be made available during the next financial year.

PUBLIC ENTITIES REPORTING TO THE MINISTER

The National Research Facilities produced the following outputs:

Supporting objectives	Performance measures/outputs	Performance	
		2006/07	2005/06
Facilitating knowledge production	Research reports	285	291
	Journal articles (ISI and other refereed)	164	119
	Full-length conference proceedings	174	165
	Chapters in books	7	19
	Books	1	9
	Publications with external co-authors	209	112
	Patents awarded	0	0

Providing High-quality Infrastructure

• National Equipment Programme (NEP)

The amount of R51,4 million was made available to fund applications for the National Equipment Programme (NEP). During the period under review, 19 awards were made of which 13 were supported by means of the R41,1 million allocated for NEP by DST and an additional nine awards were made available from the NRF core grant.

• Nanotechnology Equipment Programme (NNEP)

During the reporting period, R20 million of nanotechnology equipment awards were made following a call for applications. 21 applications were received requesting a total of R99 million and only nine received awards from the available budget of R20 million.

Strengthening International S&T Networks

RISA supported internationalisation of science through:

- The Science and Technology Agreements Fund (STAF) - administered by the NRF for DST - has funded 405 projects through bilateral agreements;

- Two inter-agency bilateral agreements have been concluded with the CNRS in France and the DFG in Germany, and five others are in the process of being completed;
- S&T agreements are in operation with Flanders, Japan, France, Norway, Poland, Sweden, Spain, Switzerland, Hungary, China and the Republic of Korea; and
- The National Research Facilities have extensive international collaborative activities with countries such as Japan, Belgium, Russia, Germany, India, the UK, Korea, etc.

African S&T Linkages

- The ICSU African Regional Office has been actively involved in conferences across Africa organised by the AU.
- During the 2006/07 financial year ICSU national membership in sub-Saharan Africa increased from 18 to 23.
- HartRAO hopes to be part of an initiative to provide training in Radio Astronomy to scientists in countries such as Namibia, Mozambique, Madagascar, Mauritius, Kenya and Ghana who are keen to participate in the South African SKA design lay-out.
- HMO collaborations in Africa have traditionally been with SADC countries.



- SAIAB has implemented an international inter-institutional collaborative research programme to integrate freshwater biodiversity information throughout Africa.
- It is anticipated that SEON information management systems will be used by African countries to address large-scale environmental problems and thus allow the region and the continent to manage the environment in support of sustainable development objectives.
- iThemba LABS interaction with several African countries such as Eritrea, Ghana, Lesotho, Mozambique, Nigeria and Tanzania has been accepted by the Third World Academy of Science (TWAS) as a Centre of Excellence to support post-graduates students and staff from African universities to conduct research at iThemba LABS.



AFRICA INSTITUTE OF SOUTH AFRICA (AISA)

Highlights of the AISA for the 2006/07 Financial Year

Following the appointment of a new council, an intensive review was conducted into the situation at the AISA. This process culminated in the implementation of a range of measures aimed at effecting a sustainable turn-around of the institute away from the uncertainties and other problem areas experienced during the year under review.

Governance Structures

- **Committees of the Accounting Authority**

During the year under review, the Council established three committees to promote its objectives in terms of section 3 of the AISA Act, 2001 (Act 68 of 2001). The establishment of the three committees complied with the King II Governance Report and comprised the following: (1) The Research Committee; (2) The Audit Committee; and (3) The Human Resources, Remuneration and Finance Committee.

General Review of the State of Affairs

There is AISA-wide consensus (which was also reflected in the findings of its official Institutional Review in 1994) that with the list of achievements to its credit, the organisation has earned its right to exist, and to continue to add value to its basic statutory mandate to produce and disseminate information on the African condition.

AISA adds immense value by exercising its mandate through exceptional skills development. AISA has built up one of the best libraries on African affairs in Africa, and its dissemination of information creates empowerment, especially through its support of other African libraries and knowledge banks.

- **Research: Area Studies Division**

The Area Studies Division in the Research Directorate fulfilled the mandate of the institute by conducting methodological, theory-orientated and policy-focused studies on a number of issues aimed at promoting knowledge and understanding of African affairs.

These studies specifically took cognisance of the socio-economic and political issues within the region. Researchers in the Area Studies Division conducted fieldwork in order

to enhance and promote the mandate of the institute, and they were also involved in other research related activities such as seminars, workshops, radio and television interviews.

These studies focused on specific regions such as East Africa and the Horn; Central Africa and the Great Lakes; North Africa; southern Africa and SADC; and West Africa. Studies were based on conceptual and theoretical approaches which incorporated case studies; employed specific methodological approaches designed to enable researchers to develop clear research findings; covered topical policy position reports accessible to all stakeholders; delivered and reinforced clear viewpoints on pertinent issues affecting the continent; and provided basic information about Africa.

The research produced by the Area Studies Division is used as reference materials in training exercises by stakeholders, such as the Department of Foreign Affairs, which is a clear indication of the contribution the division is making towards the promotion of the institute as a centre of research excellence.

AISA put in place decision-making mechanisms designed to promote quality research output, namely the Research Committee. This oversight process also enhances and encourages intra and inter-divisional research activities.

“AISA put in place decision-making mechanisms designed to promote quality research output, namely the Research Committee. This oversight process also enhances and encourages intra and inter-divisional research activities”

- **Research: Programmes Division**

The Programmes Division in the AISA Research Directorate consists of a number of thematically organised units and the researchers accordingly focused on a range of relevant research topics, mainly in the areas of peace and security, democracy and sustainable development. During the period under review, the researchers in the Programmes Division fully complied with the primary research targets stipulated in the AISA Business Plan and with the AISA Council’s research mandate.

These researchers did so by embarking on fieldwork projects selected on the basis of their relevance to important aspects of the contemporary African condition and producing Policy Position Papers on a quarterly basis. The outcome of the fieldwork target, in the form of two manuscripts which uncovered new information and insights in the field and submitted to



AISA's Publications Division, were intended to contribute to fostering and promoting an increased awareness and understanding of Africa's successes and challenges.

The division could accordingly state that its work has gone some way in both influencing and promoting informed thinking, and conceivably also policy formulation (although this is always difficult to assert with any certainty) on some major contemporary challenges facing the African continent. On the basis of the progress achieved and initiatives undertaken during the year under review, there is reason to believe that the Programmes Division did measure up to the high standards of excellence in research expected at AISA and also in terms of the NSI goals.

- **Research: Secondment to the South African Democracy Education Trust (SADET)**

The South African Democracy Education Trust (SADET) was established as a project after President Thabo Mbeki had indicated his concern about the paucity of historical material on the arduous and complex road to South Africa's peaceful political settlement after decades of violent conflict.

In consequence, Dr Sifiso Ndlovu was appointed to serve as a member of the Ministerial History Committee under the auspices of the Ministry of Education's South African History Project.

The publication, *The Road to Democracy*, Volume 2, was launched in October during the year under review. It covers the decade from 1970 to 1980 and includes, among other important highlights, the growing influence of Black Consciousness ideology on the minds of the oppressed and the horror of the 1976 Soweto uprising.

- **Research: Africa Institute of South Africa Internship Programme**

A special effort is made to ensure that women are well represented among the interns and five were appointed during the 2006/07 financial year.

During the same year, AISA was approached by the DST to select five interns from a long list of unemployed black graduates who had applied to participate in the Department's national intern initiative. Although these interns are funded by the DST, they are part of the same programme followed by all interns.

Interns are encouraged to make use of AISA's publications as an outlet for their work and, in fact, during the period under review, they played a key role in maintaining the flow of copy for the newsletter, *Inside AISA*.

Since its inception four years ago, some 70 interns, who will hopefully contribute to South Africa's reservoir of national skills as future researchers, have graduated from the internship programme - a number surpassing the output of most other equivalent South African research organisations.

- **Research: AISA Campus Lecture Series**

In additional fulfillment of AISA's training mandate, Prof. Pierre Hugo, who manages the Internship Programme, has for the past three years arranged an annual lecture series for post-graduate students from previously disadvantaged universities.

This has taken the form of a three-day event held in Pretoria attended by some 100 students mainly from the Universities of the North West and Limpopo (with all expenses covered by AISA).

The focus of the lectures has been on research methodology and related matters; a topic decided on in consultation with senior academic staff at these universities who felt that a special need existed for advanced training for their students offered by experts in this area.

The most recent event took place in Pretoria in March 2007 where a range of lectures were held on a wide variety of topics.



THE ACADEMY OF SCIENCE OF SOUTH AFRICA

Overview

The ASSAf contributes materially to the overall health and advancement of S&T in South Africa.

The Academy publishes science-focused periodicals, including the multi-disciplinary South African Journal of Science, *Quest-Science for South Africa*, (<http://www.sajs.co.za> or <http://questsciencemagazine.co.za>) and a science magazine showcasing the best of South African science.

The most recent reports issued by the ASSAf include: Report on a Strategic Approach to Research Publishing in South Africa (April 2006), Evidence-based Practice (September 2006), IAP Water Programme Regional Workshop for Africa: Proceedings Report (October 2006), Nutrition, HIV/Aids and TB (July 2007) and the Committee on Science for the Alleviation of Poverty: Agricultural Workshop Proceedings Report (August 2007).

International Academy Relations

- ASSAf has established an International Liaison Office that provides assistance on the ASSAf interactions with the InterAcademy Panel (IAP), the Network of African Science Academies (NASAC), individual sister African science academies, the InterAcademy Medical Panel (IAMP), the TWAS, and ASSAf's highly selective bilateral engagements.

“The Academy is an active collaborator of The Academy of Science of the Developing World (TWAS), which has programmes to stimulate scientific development in developing countries and co-sponsors ASSAf’s Young Scientist Award for South Africa”



- The Academy is a founder Member of the NASAC, and is currently one of its Vice-Presidents. A Strategic Action Agenda for NASAC was adopted by the Network in late 2006, which involves an extensive programme of activities designed to strengthen each of the existing national science academies in Africa and to assist in establishing others where this can be done.
- The Academy is an active collaborator of the TWAS, which has programmes to stimulate scientific development in developing countries and co-sponsors ASSAf's Young Scientist Award for South Africa. ASSAf popularises the TWAS fellowship schemes in South Africa and acts as the South African office.
- A significant outflow of ASSAf's Membership of the IAP has been its continuing inclusion in the annual meetings of the so-called "G8 plus 5" scheme, where the national science academies of the 13 countries concerned discuss key issues of common interest and provide evidence-based advice to the heads of state at the "G8 plus 5" heads-of-state summit meeting. The first such meeting was held in Moscow in April 2006, and the second took place in Germany early in 2007. Prof. Jonathan Jansen (Vice-President) and Prof. Robin Crewe (President) represented ASSAf at the two occasions respectively. ASSAf has been elected as a Member of the IAP Committee on Strategic Programmes and Strategic Planning.
- ASSAf's Membership of the IAMP has provided valuable contacts with the main medical academies world-wide; thus providing a focus on health problems of the developing world. In the person of Prof. Anthony Mbewu, ASSAf, the Academy has provided one of the two co-chairs of the IAMP for the present two-year period.
- The Academy has also continued to act as a centre for disseminating notices of International Science Prizes, and to enhance take-up by South African nominators.



SOUTH AFRICAN NATIONAL ENERGY RESEARCH INSTITUTE (SANERI)

In the 2006/07 financial year, SANERI was operationalised under the guidance and leadership of the SANERI Board. A key future focus of SANERI is to ensure that South Africa's energy research continues to be globally competitive by exploring opportunities to enhance the scale and focus of research supported by this institute. This will build on and complement initiatives to establish centres, post-doctoral fellowships and graduate assistant programmes in South Africa.



TSHUMISANO TRUST

The Trust has continuously provided technical and financial support to Technology Stations (TSs). In turn, the TSs have increased their assistance to SMEs by more than 37 % during the 2006/07 financial year. Tshumisano has used this period to position its operational efficiency, taking into account that three regional Institutes for Advanced Tooling and two new stations, Agro-food in Limpopo and Down Stream Chemical in Port Elizabeth, were established within the last year.

In June 2006, Tshumisano successfully held the first All Africa Technology Diffusion Conference. The conference focused on how research and innovation in government-funded academic institutions could provide solutions for SMEs and

“The conference focused on how research and innovation in government-funded academic institutions could provide solutions for SMEs and societies to be more competitive, thereby meeting pressing economic and societal needs”

societies to be more competitive, thereby meeting pressing economic and societal needs. The three-day conference boasted 90 speakers from all over the world and more than 300 participants.

In September 2006, Tshumisano chose the Innovation Hub as the new home for its Project Management Unit (PMU). It is from here that Tshumisano will continue its quest to strengthen interactions between Universities of Technology (UoTs) and industry.

The Trust has used its interaction with other key local, provincial and national agencies involved in SME development and training to strengthen the ability to assist SMEs, through inter-agency referrals such as SEDA, GTZ, IDC, Provincial Government and other stakeholders within Technology Diffusion.

The Trust is on course to become a fully fledged Public Entity in the next financial year. It is imperative that the staff complement at the PMU be increased and improved especially in critical areas such as Project, Financial and Risk Management in line with the requirements of the PFMA and Treasury Regulations for listed public entities in South Africa.

The Institute for Advanced Tooling (IAT) is a DST initiative, implemented through the Tshumisano Trust with the Tshwane University of Technology (Soshanguve Campus), Stellenbosch University and the newly established regional centre at Walter Sisulu University (WSU) in East London.

The official signing of the Memorandum of Agreement took place on 3 March 2006, just over a year since the IAT was established to serve the Tooling Industry and develop the emerging SMEs to be internationally competitive in Tool and Die Making.

The IGTR was a key element in capacitating the IAT with the IGTR graduates deployed to serve within the NTI strategic structures in order to meet objectives of the 5 NTI driving programmes.



SME Assistance 2006/07

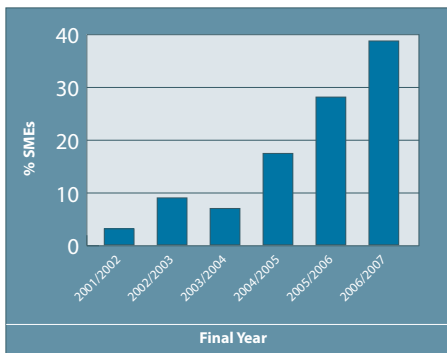


Figure 1: % increase in number of SMEs since the Trust's inception in 2002.

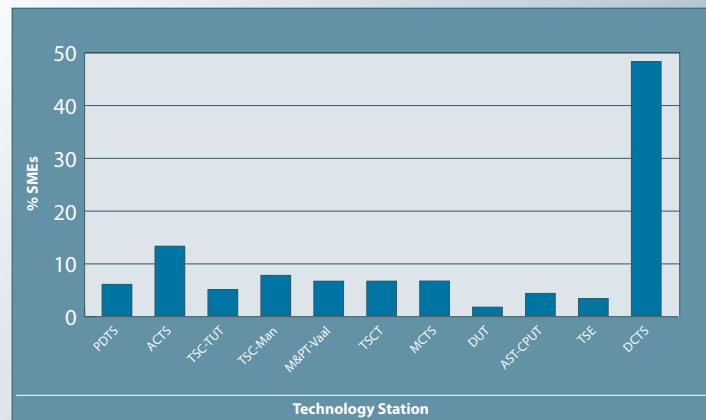


Figure 2: % contribution per Technology Station to the total SMEs (1 083) for the 2006/07 financial year.

Quality of Scientific Input

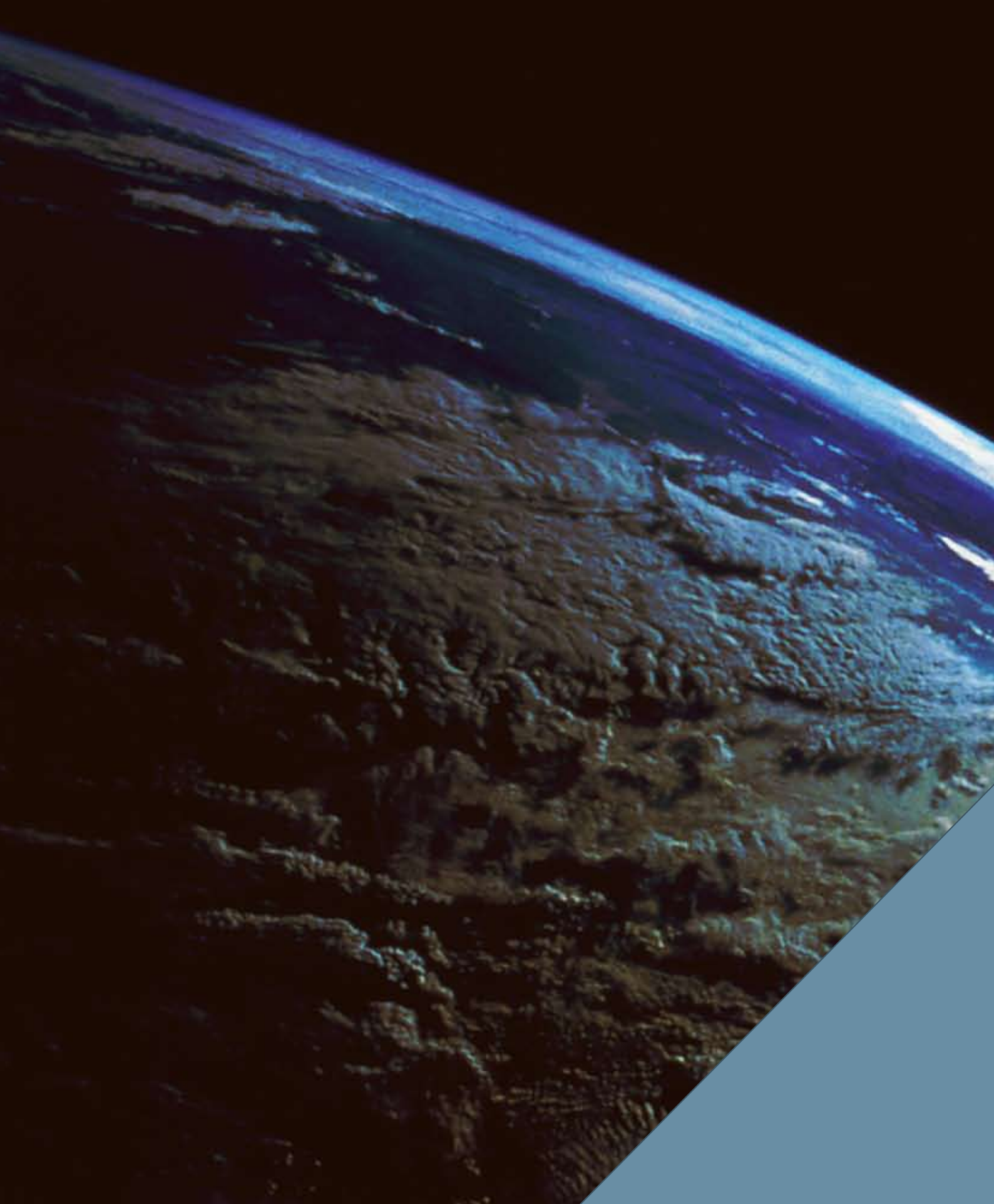
The objectives of institutional learning and development have been fully realised and the capacity of its employees and project leaders is continuously enhanced.

Internship through Tshumisano Initiatives

The DST Internship Programme has had a positive impact on the trust, with a total of 87 interns assisted in 2006/07, and just over 30 females stationed in the operations of both Technology Stations and Tooling Institutes. Tshumisano aims to advance this most important component of the programme.

Indo-German Tool Room Programme Corporation (IGTRP)

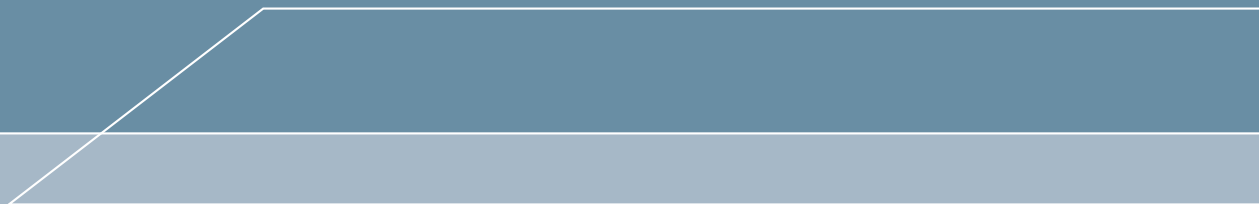
The IGTRP venture was aimed at training future South African trainers for an envisaged tool training centre, as per Memorandums of Agreement with a joint consortium of funding organisations (the DST, the Provincial Government of the Western Cape and MERSETA). This corporation, currently managed by Tshumisano, has thus far yielded great results in respect of the revitalisation of our local tooling Industry.





ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007







DEPARTMENT OF SCIENCE AND TECHNOLOGY VOTE 3 I
ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2006

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REPORT OF THE ACCOUNTING OFFICER

for the year ended 31 March 2007

REPORT OF THE ACCOUNTING OFFICER TO THE EXECUTIVE AUTHORITY AND PARLIAMENT OF THE REPUBLIC OF SOUTH AFRICA

I. General review of the state of affairs

The Department of Science and Technology (DST) seeks to realise the full socio-economic potential of science and technology in our country through the development of human resources, research and innovation.

The DST is one of the youngest national departments in the Republic of South Africa. At the onset of the 2006/07 financial year, I joined the Department as the second Director-General (DG) since the inception of the DST. With the support of the Ministry and the Deputy Directors-General, we immediately commenced furthering and improving on the imperatives identified by my predecessor. Since then, one of the major innovations introduced was the mapping of the National System of Innovation (NSI). The ultimate aim of this mapping exercise is to strengthen and direct the utilisation of scarce resources in a more focused manner with the view of achieving the goals of the National Research and Development Strategy, approved in 2002. Other initiatives introduced are highlighted below.

Capacity constraints

The DST managed to fulfill its set objectives with the available human resources at its disposal and no real capacity constraints were experienced in this regard. In addition, the DST also managed to retain and/or appoint new Executive Committee (EXCO) members. This stood the Department in great stead and culminated in the continuation of the Department's excellent financial performance.

In my capacity as Accounting Officer, I also took it upon myself to ensure that the Department explored other legal avenues to improve morale, productivity, retention

and attraction of employees. Needless to say, contented employees are the cornerstones of all successful organisations. The custodian of the aforementioned exercise was the Human Resources Unit.

Organisational structure

The Programmes outlined below depict the current organisational structure which will cease to be operational during the 2007/08 financial year. This structure has been approved by both the National Treasury and the Department of Public Service and Administration. However, the number of Programmes will remain five in total and the changes will mainly revolve around the *functions* of certain Programmes. Programme 1 will remain the same as per National Treasury requirements.

Key Programmes

Programme 1:	Corporate Services and Governance
Programme 2:	Science and Technology Expert Services
Programme 3:	International Cooperation and Resources
Programme 4:	Frontier Science and Technology
Programme 5:	Government Sector Programmes and Coordination

Expenditure trends

Since its establishment, the Department has consistently spent more than 90% of its budget. The 2006/07 financial year was no exception, and 99.84% of the approved budget of R2,619 billion was spent, bolstering the DST's historical excellent performance. Expenditure on transfer payments increased from R1,865 billion in 2005/06 to R2,293 billion in 2006/07. The table below reflects a summary of the expenditure by budget reconciliation, as well as the economic classification.

REPORT OF THE ACCOUNTING OFFICER

for the year ended 31 March 2007

Budget reconciliation

	2006/07	2005/06
	R'000	R'000
Amount voted	2 617 093	2 041 936
Actual expenditure	2 612 999	2 038 753
Surplus	4 094	3 183

Economic classification

	2006/07	2005/06
	R'000	R'000
Current expenditure	174 004	170 978
Transfer payments	2 293 388	1 865 085
Payments for capital assets	145 607	2 690
Total	2 612 999	2 038 753

Spending on transfer payments (88%) dominated the Department's Vote.

2. Services rendered by the Department

The Department does not provide any services to any institutions or persons on a recoverable basis.

3. Public entities

The following public entities were funded by the Department during the 2006/07 financial year, including the amounts appropriated to them:

Human Sciences Research Council (R121,5 million)

The Human Sciences Research Council (HSRC) supports development in South Africa and Africa by conducting applied social science research projects and coordinating research in terms of the Human Sciences Research Council Act (Act 23 of 1968). The HSRC has aligned its research structures and activities to major development priorities, with focal areas covering technology and education; democracy and governance; integrated rural and regional development; and the social aspects of HIV/Aids and health. The HSRC has

made significant contributions to the debate on the impact of public sector programmes on poverty, playing a leading role in research for the Presidency's review of the last 10 years of democracy, amongst other important national research programmes.

National Research Foundation (R596,7 million)

As the Government's national agency responsible for promoting and supporting research, the National Research Foundation (NRF), established in terms of the National Research Foundation Act (Act 23 of 1998), aims to uphold excellence in its investments in knowledge, people and infrastructure. The Foundation's task is to advance research in all fields of the humanities, the social and natural sciences, engineering and technology. The NRF has successfully addressed many of its research and development strategy imperatives since its establishment, which include science awareness and outreach, student support, scarce skills development and the creation of Centres of Excellence.

Africa Institute of South Africa (R24,9 million)

The Africa Institute of South Africa (AISA) is a statutory body which conducts in-depth analyses of Africa's current affairs and gathers intelligence on the future of Africa, the AU and NEPAD. It focuses primarily on political, socio-economic, international and development issues in contemporary Africa, and contributes to the goals of the NSI as its research programmes have a significant impact on knowledge generation and human resource development.

Council for Scientific and Industrial Research (R483 million)

The Council for Scientific and Industrial Research is governed by the Human Sciences Research Council Act (1988), as amended. Its mandate is to foster industrial and scientific development either by itself or in partnership with public and private sector institutions

REPORT OF THE ACCOUNTING OFFICER

for the year ended 31 March 2007

aimed at improving the quality of life of South Africans. This should, in terms of legislation, be performed in the national interest through directed and multidisciplinary research and technological innovation.

Tshumisano Trust (R31,5 million)

The Department has identified technological innovation and related skills upgrading as being of vital importance to the competitiveness of South African Small, Medium and Micro Enterprises (SMMEs). Tshumisano operates the Technology Stations programme with funding from the Department and Gesellschaft für Technische Zusammenarbeit (GTZ). Technology Stations were developed at universities of technology (UoT) to service SMMEs, and also aim to improve market responsiveness to UoT programmes.

Academy of Science of South Africa (R3 million)

The Academy of Science of South Africa Act (Act 67 of 2001) provides for the establishment of the Academy of Science of South Africa (ASSAf). Its objectives are to promote common ground for scientific thinking across all disciplines; to encourage and promote innovative and independent scientific thinking; to promote the optimum development of the intellectual capacity of all people; and to link South Africa with scientific communities at the highest levels, and the African continent in particular. The academy publishes scientific reports, investigates matters of public interest concerning science, and manages South African research journals.

South African National Energy Research Institute (R40 million)

The establishment of the South African National Energy Research Institute (SANERI) is a joint mandate with the Department of Minerals and Energy. SANERI's main focus is to build research capacity through funding research at universities and science councils.

In June 2004, Cabinet approved the governance model for SANERI as a subsidiary of CEF (Pty) Ltd.

4. Other organisations to which transfer payments were made

The Department supports and promotes projects that aim to promote science and technology, as well as addressing "market failure" in the NSI. To this end, the Department transfers ad hoc payments to institutions, boards, communities or other public bodies. Various Programme Managers in their respective units evaluate project proposals received from various role players and enter into an agreement with the parties by signing a Memorandum of Agreement once the decision has been made to fund a particular project.

The following Programmes and organisations were funded by the Department during the reporting period. The exact purpose of the funding is explained in detail in the section of the Programme under which it falls.

Programme 1: Administration

Transfer	Amount 2006/07	Amount 2005/06
	R'000	R'000
Technology Top 100	2 060	2 280
Total	2 060	2 280

Programme 2: Science and Technology Expert Services

Transfer	Amount 2006/07	Amount 2005/06
	R'000	R'000
Institution and Programme Support	2 122	3 637
Total	2 122	3 637

Programme 3: International Cooperation and Resources

Transfer	Amount 2006/07	Amount 2005/06
	R'000	R'000
Global Science	56 661	26 226
Total	56 661	26 226

REPORT OF THE ACCOUNTING OFFICER

for the year ended 31 March 2007

Programme 4: Frontier Science and Technology

Transfer	Amount 2006/07	Amount 2005/06
	R'000	R'000
Biotechnology Strategy	147 986	154 850
Innovation Fund	128 193	101 597
Indigenous Knowledge Systems	3 490	3 500
Human Resource Development	56 000	12 600
Square Kilometre Array	8 000	8 000
Frontier Science and Technology	52 152	61 666
Science and Youth	20 236	16 581
Science Themes	52 105	25 964
Centres for Excellence	-	20 000
Equipment Placement	-	11 000
Total	468 162	415 758

Programme 5: Government Sectoral Programme and Coordination

Transfer	Amount 2006/07	Amount 2005/06
	R'000	R'000
Technology Planning and Diffusion	79 433	17 028
Learnerships	4 444	5 000
Advanced Manufacturing Technology Strategy	51 800	41 515
Public Assets	43 000	43 000
South African Aids Vaccine Initiative	15 000	20 000
Information Communication Technology	27 200	14 023
Natural Resources	29 666	20 080
Flourochemicals	-	20 000
Technology for Poverty Alleviation	55 700	12 900
Technology for Sustainable Livelihoods	53 000	46 999
Total	359 243	240 545

5. Virement in terms of S43

The virements, requested by the DST during the financial year, were performed in compliance with the Public Finance Management Act (PFMA) of 1999, section 43. The reason for effecting the virements in the majority of cases, was to defray costs among Programmes which had assumed joint responsibility for a project(s). In other instances the virements were effected due to the slow and/or lack of uptake of the projects.

6. Inventory balances on hand at year-end

The costing method used for inventory valuation by the DST is the average weighted cost method. For replenishing purposes, the DST, through its Supply Chain Management (SCM), uses the Logistical Information System (LOGIS) which utilises the Analytical Technique for SCM (provisioning). This system assists the Department in maintaining and managing inventory at very low levels. Furthermore, our inventory is not used for reselling and as such, low levels of inventory

are ideal for our operations. The low levels of inventory are beneficial to the Department due to the fact that cash is rarely locked up in inventory. Incidences of obsolescence are therefore rare, as inventory is not held for long periods of time. Losses due to theft are not material either.

7. Corporate Governance Arrangements

Resolution of the past financial year – Matter of Emphasis

The Department's Matter of Emphasis for 2005/06 related to the Asset Register and the Programme Performance information. The Asset Register query has been attended to and made available to the internal auditors for audit. The Programme Performance information is currently receiving attention and will be further attended to by the new Senior Programme Manager, who is the equivalent of a Chief Operating Officer (COO) in the private sector.

Management/Fraud Prevention Policy

Risk assessment has taken a centre stage within the echelons of the DST. The risks of the Department are assessed and categorised on an annual basis. The DG ensures that the management of all identified risks is implemented and that the risks are controlled within reasonable bounds by the owners of those risks. Internal audit also plays a major role in monitoring the aforementioned risks. The Fraud Prevention Policy, together with the Whistle-blowing Policy, has been revised accordingly. Like all government departments, the DST has transferred its whistle-blowing activities/fraud hotline to the Public Service Commission (PSC).

Materiality and Significance Framework

Although this document is prescribed by both the PFMA and the Treasury Regulations for public entities only, the Department, since 2004/05, adopted and implemented this document as per the recommendation of the Audit Committee. The reason for the adoption was based on the principles of "good business practice"; and as such, also serves the auditors very well.

Management process to minimise conflict of interest

The following measures have been put in place to reduce conflict of interest:

- (i) All Senior Managers (i.e. SMS members) are required to complete a Disclosure of Information Form on appointment;
- (ii) Furthermore, the same members are required on an annual basis to declare their financial interest in terms of partnerships, directorships, etc;
- (iii) As from the 2006/07 financial year, all DST staff members are now also expected to declare their financial interest in terms of partnerships, directorships, etc. on an annual basis;
- (iv) All members of the Departmental Tender Committee and the Evaluation Team are required to complete a Declaration of Interest form prior to the evaluation or adjudication of a tender/bid.

Audit Committee

In order to comply with the PFMA and Treasury Regulations, the Department established an Audit Committee which meets at least four times a year. The Chairperson of the Committee is Dr JM Stewart, who is also the Director of Stewart Consulting. The Audit Committee members are:

REPORT OF THE ACCOUNTING OFFICER

for the year ended 31 March 2007

Member	Institution	Position
Dr PM Mjwara	Department of Science and Technology	Director-General
Dr JM Stewart	JM Stewart Consulting	Director
Ms T Geldenhuys	SITA	Company Secretary
Mr L Ledwaba	Rennies Travel	Financial Director
Mr V Magan	Magan & Associates	Director
Mr L Kaplan	Independent Consultant	

8. Compliance with section 63(2) of the PFMA

In terms of the above section, the Minister is obligated to oversee public entities reporting to the Department. A sub-programme within Programme 1: Governance and Institutional Performance, is responsible for monitoring and ensuring that all public entities reporting to the Department comply with the PFMA, as well as adhere to best practice in corporate governance. Governance of the public institutions is performed by applying certain benchmarking tools such as Key Performance Indicators (KPIs), as per the Balanced Scorecard (BSC) and organisational reviews. The sub-programme: Finance ensures that other financial, PFMA and Treasury Regulations related compliance issues are adhered to.

9. Progress with financial management improvements

The implementation of the PFMA and Treasury Regulations in terms of sections 76 and 77 of the Act has been prioritised in the Department. Delegations in this respect are revised annually and implemented accordingly.

Accurate financial reporting, as required by the PFMA, was submitted to the relevant stakeholders timeously. In addition to statutory requirements, the Department has an effective in-house reporting and cash flow management system. The small savings that we had in

the current and past financial years attest to continual improvement in financial management.

Internal performance systems

The Department has implemented the following accountability organs in order to monitor progress and achieve the desired targets:

The Operations Committee (OPCO) meets every fortnight to discuss operational issues and its decisions are ratified and/or adopted at EXCO level. This Committee consists of the Deputy Directors-General, the CFO and other members of DST, upon invitation by their respective Managers.

The EXCO, which focuses on strategic and governance issues, meets on a fortnightly basis and is chaired by the Accounting Officer. In addition, this Committee also adopts and/or ratifies decisions taken by OPCO. Budget meetings are also held monthly between the CFO, the Management Accountant, as well as the Programme managers of the respective Programmes and their staff, during which the performance of each Programme is discussed at length.

10. Reports after reporting date

The Launch of Sumbandila Satellite

Significant inroads have been made in the so-called "big science" activities, and the DST is proud to announce

REPORT OF THE ACCOUNTING OFFICER

for the year ended 31 March 2007

that during 2007 it will launch the Sumbandila Satellite in Russia, since South Africa currently does not have any launching facilities. "Sumbandila" is a Venda word meaning "leading the way". This is a major milestone for South Africa, and the African continent, joined by Nigeria and Algeria in this regard. More details on the aforementioned and the creation of the Space Agency are provided under "Programme Performance" in Programme 2.

The development of the 10-year Plan

The National Treasury has recommended and urged all national departments to consider long-term plans, as opposed to the standard three-year (short-term) plans, particularly with regard to large infrastructure and other projects which extend over longer periods. Naturally, most science projects take time to mature. This has been requested by National Treasury with the view of improving service delivery in the long run. Following the National Treasury recommendation, the DG and EXCO members have worked tirelessly to produce the 10-year plan for the DST.

There is no doubt that this strategy will be implemented during the 2007/08 financial year. It needs to be noted that this plan is entirely consistent and in accordance with the strategic objectives of the Department.

The recommendation from previous reviews of the NSI

The National Research and Development Strategy (NRDS) of 2002 highlighted the innovation "chasm" within the value chain of the NSI. The NRDS further recommended the establishment of the Technological

Innovation Agency (TIA) in order to bridge said gap. Consultations with the relevant stakeholders have commenced and will continue well into the next financial year.

The Public Benefit Foundation (PBF) is another initiative proposed to mainstream science, engineering and technology (SET) resources in poverty reduction. Processes to ensure the creation of PBF are currently being put in place. More details on both the TIA and PBF are highlighted under "Programme Performance" in Programmes 3 and 5 respectively.

II. Other Activities

Performance audit

A performance audit was conducted in respect of the South African Aids Vaccine Initiative (SAAVI) which is co-funded by Eskom, the Department of Health and the DST. The results of the audit could not have come at a more opportune time and the DST is now considering a more effective strategy to ensure that existing efforts pertaining to this national initiative are strengthened.

Approval

This serves to confirm that the Annual Financial Statements of the Department of Science and Technology (DST), as set out on pages 108 to 149, have been approved by the Accounting Officer of the DST, Dr PM Mjwara.



DR PM MJWARA

Accounting Officer

REPORT OF THE AUDITOR-GENERAL TO PARLIAMENT ON THE FINANCIAL STATEMENTS

of vote 31 Department of Science and Technology for the year ended 31 March 2007

REPORT OF THE AUDITOR-GENERAL TO PARLIAMENT ON THE FINANCIAL STATEMENTS AND PERFORMANCE INFORMATION OF THE VOTE NO. 31 DEPARTMENT OF SCIENCE AND TECHNOLOGY FOR THE YEAR ENDED 31 MARCH 2007

REPORT ON THE FINANCIAL STATEMENTS

1. Introduction

I have audited the accompanying financial statements of the Department of Science and Technology (DST) which comprise the statement of financial position as at 31 March 2007, appropriation statement, statement of financial performance, statement of changes in net assets and cash flow statement for the year then ended, and a summary of significant accounting policies and other explanatory notes, as set out on pages 108 to 149.

2. Responsibility of the accounting officer for the financial statements

The accounting officer is responsible for the preparation and fair presentation of these financial statements in accordance with the modified cash basis and in the manner required by the Public Finance Management Act, 1999 (Act No. 1 of 1999) (PFMA). This responsibility includes:

- designing, implementing and maintaining internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error
- selecting and applying appropriate accounting policies
- making accounting estimates that are reasonable in the circumstances.

3. Responsibility of the Auditor-General

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

I conducted my audit in accordance with the International Standards on Auditing and *General Notice 646 of 2007*, issued in the *Government Gazette No. 29919 of 25 May 2007* and *General Notice 647 of 2007*, issued in *Government Gazette No. 29919 of 25 May 2007*. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

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

An audit also includes evaluating the:

- appropriateness of accounting policies used
- reasonableness of accounting estimates made by management
- overall presentation of the financial statements.

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

4. Basis of accounting

The department's policy is to prepare financial statements on the modified cash basis of accounting determined by the National Treasury, as set out in the accounting policy pages 108 to 112 to the financial statements.

5. Opinion

In my opinion the financial statements present fairly, in all material respects, the financial position of Department of Science and Technology as at 31 March 2007 and its financial performance and cash flows for the year then ended, in accordance with the modified cash basis and in the manner required by the Public Finance Management Act, 1999 (Act No. 1 of 1999) (PFMA).

REPORT OF THE AUDITOR-GENERAL TO PARLIAMENT ON THE FINANCIAL STATEMENTS

of vote 31 Department of Science and Technology for the year ended 31 March 2007

6. Emphasis of matters

Without qualifying my audit opinion, I draw attention to the following matters:

- Included in the disclosure notes to the annual financial statements, is note 25 that relates to a non-residential building stated at R133 million which will be removed from the asset register of the DST once transfer of the title deed to the department of public works (DPW) has been finalised.

7. OTHER MATTERS

I draw attention to the following matters that are ancillary to my responsibilities in the audit of the financial statements:

Matters of governance

- **Policies and procedures – assets**

Appropriate policies and procedures within the asset department were only developed towards the end of the financial year.

- **Information systems – user profile management**

The processes followed to authorise access to the Personnel and Salary Administration System (Persal) and the Basic Accounting System (BAS) were found to be inadequate as the procedures for user profile management were only approved towards the end of the financial year.

- **Information systems – information security policy**

No documentation security policy was in place at the department, as the information security policy had only been approved by the executive committee towards the end of the financial year.

- **Delay in finalisation of audit**

Due to the national public sector strike action during June 2007 the Auditor-General had to delay the finalisation of affected departments. As a result, the Auditor-General's consistency review process of the audit reports could only be conducted subsequent to 31 July 2007, the consequence of which was a delay in the finalisation of the audit of this department for the 2006/07 financial year.

8. OTHER REPORTING RESPONSIBILITIES

Reporting on performance information

I have audited the performance information as set out on pages 27, 31-32, 44-45, 57-58 and 64-66.

Responsibility of the accounting officer for departments

The accounting officer has additional responsibilities as required by section 40(3)(a) of the PFMA to ensure that the annual report and audited financial statements fairly present the performance against predetermined objectives of the department.

Responsibility of the Auditor-General

I conducted my engagement in accordance with section 13 of the Public Audit Act, 2004 (Act No. 25 of 2004), read with *General Notice 646 of 2007*, issued in *Government Gazette No. 29919 of 25 May 2007*.

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

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

Audit findings

I have not observed any significant matter that requires inclusion in my report.

9. APPRECIATION

The assistance rendered by the staff of the Department of Science and Technology during the audit is sincerely appreciated.



A H Muller
For Auditor-General

Pretoria

10 August 2007



AUDITOR-GENERAL

REPORT OF THE AUDIT COMMITTEE

for the year ended 31 March 2007

1. Overview

We are pleased to present our report for the financial year ended 31 March 2007.

2. Audit Committee Members and Attendance

The Audit Committee consists of the members listed hereunder and meets as often as it deems necessary as per the approved terms of reference.

During the period under review, there were four meetings held.

Name of the Member	Position	Date Appointed	Date Resigned	Number of meetings attended
JM Stewart	Chairperson	Sept 2003	n/a	4 out of 4
P Mjwara	Member – ex officio, Accounting Officer of DST	Apr 2006	n/a	3 out of 4
V Magan	Member	Sept 2006	n/a	2 out of 2
L Kaplan	Member	Sept 2006	n/a	2 out of 2
L Ledwaba	Member	Sept 2006	n/a	2 out of 2
T Geldenhuys	Member Resigned	May 2006	n/a	2 out of 4
M Gantsho	Member-resigned	Sept 2003	Aug 2006	1 out of 2
D Fourie	Member-resigned	Sept 2003	July 2006	0 out of 1

3. Audit Committee Responsibility

The Audit Committee reports that it has complied with its responsibilities arising from section 38(1)(a) of the Public Finance Management Act and Treasury Regulation 3.1.13. The audit committee also reports that it has adopted appropriate formal terms of reference as its audit committee charter, has regulated its affairs in compliance with its charter and has discharged its responsibilities as contained therein.

4. The effectiveness of internal control

During this past year the committee has monitored the efforts that were made to rectify the internal control deficiencies identified in the previous year. To a large extent these were satisfactorily attended to; a timing issue related to an item in the asset register will be resolved in due course, as noted in the report of the Auditor-General.

The committee is satisfied that the internal audit function, which involves the assistance of an outsourced service provider, operates efficiently and effectively, and that the systems of internal control over the major financial risks are effective.

5. Risk management

An updated risk assessment was formally completed during the past year and internal audit used this data to prepare a three-year rolling strategic audit plan as well as the annual operating audit plan. The risk management strategy, which includes the fraud prevention plan, has however not yet been fully implemented. Management has committed to continue with this process in the short term.

6. Submission of in year management and monthly/quarterly reports in terms of the Public Finance Management Act and the Division of Revenue Act

The committee has considered quarterly reports prepared and issued by the Accounting Officer and the department during the year under review and considers them to be of acceptable quality.

7. Evaluation of Financial Statements

The Audit Committee has:

- reviewed the audited annual financial statements to be included in the annual report;
- reviewed the Auditor-General's management letter and management response; and
- reviewed the report of the Auditor-General.

The Audit Committee concurs and accepts the conclusions of the Auditor-General 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.



Dr JM Stewart

Chairperson of the Audit Committee

13 August 2007

ACCOUNTING POLICIES

for the year ended 31 March 2007

The Annual Financial Statements have been prepared in accordance with the following policies, which have been applied consistently in all material aspects, unless otherwise indicated. However, where appropriate and meaningful, additional information has been disclosed to enhance the usefulness of the Financial Statements and to comply with the statutory requirements of the Public Finance Management Act, Act 1 of 1999, as amended by Act 29 of 1999, and the Treasury Regulations issued in terms of the Act and the Division of Revenue Act, Act 2 of 2006.

I. Presentation of the Financial Statements

1.1 Basis of preparation

The Annual Financial Statements have been prepared on a modified cash basis of accounting, except where stated otherwise. The modified cash basis constitutes the cash basis of accounting supplemented with additional disclosure items. Under the cash basis of accounting transactions and other events are recognised when cash is received or paid.

1.2 Presentation currency

All amounts have been presented in the currency of the South African Rand (R), which is also the functional currency of the DST.

1.3 Rounding

Unless otherwise stated, all financial figures have been rounded to the nearest one thousand Rand (R'000).

1.4 Comparative figures

Prior period comparative information has been presented in the current year's financial statements. Where necessary, figures included in the prior period financial statements have been reclassified to ensure that the format in which the information is presented

is consistent with the format of the current year's financial statements.

1.5 Comparative figures - Appropriation Statement

A comparison between actual amounts and final appropriation per major classification of expenditure is included in the Appropriation Statement.

2. Revenue

2.1 Appropriated funds

Appropriated and adjusted appropriated funds are recognised in the financial records on the date the appropriation becomes effective. Adjustments to the appropriated funds made in terms of the adjustments budget process are recognised in the financial records on the date the adjustments become effective.

Total appropriated funds are presented in the Statement of Financial Performance.

Unexpended appropriated funds are surrendered to the National Revenue Fund, unless approval has been given by the National Treasury to roll over the funds to the subsequent financial year. These approved rollover funds form part of retained funds in the Annual Financial Statements. Amounts owing to the National Revenue Fund at the end of the financial year are recognised in the Statement of Financial Position.

2.2 Departmental revenue

All Departmental revenue is paid into the National Revenue Fund when received, unless otherwise stated. Amounts owing to the National Revenue Fund at the end of the financial year are recognised in the Statement of Financial Position. Amounts receivable at the reporting date are disclosed in the Disclosure Notes to the Annual Financial Statements.

ACCOUNTING POLICIES

for the year ended 31 March 2007

2.1.1 Sales of goods and services other than capital assets

The proceeds received from the sale of goods and/or the provision of services is recognised in the Statement of Financial Performance when the cash is received.

2.1.2 Sale of capital assets

The proceeds received on sale of capital assets are recognised in the Statement of Financial Performance when the cash is received.

2.1.3 Financial transactions in assets and liabilities

Repayments of loans and advances previously extended to employees and public corporations for policy purposes are recognised as revenue in the Statement of Financial Performance on receipt of the funds.

Cheques issued in previous accounting periods that expire before being banked is recognised as revenue in the Statement of Financial Performance when the cheque becomes stale. When the cheque is reissued, the payment is made from Revenue.

2.3 Local and foreign aid assistance

Local and foreign aid assistance is recognised as revenue when notification of the assistance is received from the National Treasury, or when the Department directly receives the cash from the donor(s).

All in-kind local and foreign aid assistance are disclosed at fair value in the Annexures to the Annual Financial Statements.

The cash payments made during the year relating to local and foreign aid assistance projects are recognised as expenditure in the Statement of Financial Performance.

The value of the assistance expensed prior to the receipt of the funds is recognised as a receivable in the Statement of Financial Position.

Inappropriately expensed amounts using local and foreign aid assistance and any unutilised amounts are recognised as payables in the Statement of Financial Position.

3. Expenditure

3.1 Compensation of employees

Salaries and wages comprise payments to employees. Salaries and wages are recognised as an expense in the Statement of Financial Performance when the payment is effected on the system (by no later than 31 March of each year).

All other payments are classified as current expense.

Social contributions include the employer's contribution to social insurance schemes paid on behalf of the employee. Social contributions are recognised as an expense in the Statement of Financial Performance when the payment is effected on the system.

3.1.1 Short-term employee benefits

Short-term employee benefits comprise of leave entitlements (including capped leave), thirteenth cheques and performance bonuses. The cost of short-term employee benefits is expensed as salaries and wages in the Statement of Financial Performance when the payment is effected on the system (by no later than 31 March of each year).

3.1.2 Long-term employee benefits

3.1.2.1 Termination benefits

Termination benefits such as severance packages are recognised as an expense in the Statement of Financial Performance as a transfer (to households) when the payment

ACCOUNTING POLICIES

for the year ended 31 March 2007

is effected on the system (by no later than 31 March of each year).

3.1.2.2 Post-employment retirement benefits

The Department provides retirement benefits (pension benefits) for certain of its employees through a defined benefit plan for Government employees. These benefits are funded by both employer and employee contributions. Employer contributions to the fund are expensed when the payment to the fund is effected on the system (by no later than 31 March of each year). No provision is made for retirement benefits in the Financial Statements of the Department. Any potential liabilities are disclosed in the Financial Statements of the National/Provincial Revenue Fund and not in the Financial Statements of the Employer Department.

The Department provides medical benefits for certain of its employees. Employer contributions to the medical funds are expensed when the payment to the fund is effected on the system (by no later than 31 March of each year).

3.2 Goods and services

Payments made for goods and/or services are recognised as an expense in the Statement of Financial Performance when the payment is effected on the system (by no later than 31 March of each year). The expense is classified as capital if an asset of R5 000 or more is purchased. All assets amounting to less than R5 000 are also reflected under Goods and Services.

3.3 Financial transactions in assets and liabilities

Debts are written off when identified as irrecoverable. Debts written off are limited to the amount of savings and/or underspending of appropriated funds. The write-off occurs at year-end or when funds are available. No provision is made for irrecoverable amounts, but amounts are disclosed as a Disclosure Note.

All other losses are recognised when authorisation has been granted for the recognition thereof.

3.4 Transfers and subsidies

Transfers and subsidies are recognised as an expense when the payment is effected on the system (by no later than 31 March of each year).

3.5 Expenditure for capital assets

Payments made for capital assets are recognised as an expense in the Statement of Financial Performance when the payment is effected on the system (by no later than 31 March of each year).

4. Assets

4.1 Cash and cash equivalents

Cash and cash equivalents are carried in the Statement of Financial Position at cost.

For the purposes of the Cash Flow Statement, cash and cash equivalents comprise cash on hand, deposits held, other short-term highly liquid investments and bank overdrafts.

4.2 Prepayments and advances

Amounts prepaid or advanced are recognised in the Statement of Financial Position when the payments are made.

ACCOUNTING POLICIES

for the year ended 31 March 2007

4.3 Receivables

Receivables included in the Statement of Financial Position arise from cash payments made that are recoverable from another party.

Revenue receivable, but not yet collected, is included in the Disclosure Notes. Amounts that are potentially irrecoverable are included in the Disclosure Notes.

4.4 Inventory

Inventories purchased during the financial year are disclosed at cost in the Notes.

4.5 Capital assets

A capital asset is recorded on receipt of the item at cost. Cost of an asset is defined as the total cost of acquisition. Where the cost cannot be determined accurately, the capital asset may be stated at fair value. Where fair value cannot be determined, the capital asset is included in the asset register at R1.

Projects (of construction/development) running over more than one financial year relating to assets, are only capitalised as assets on completion of the project and at the total cost incurred over the duration of the project.

Disclosure Note 25 reflects the total movement in the Asset Register for the current financial year.

5. Liabilities

5.1 Payables

Recognised payables mainly comprise amounts owing to other governmental entities. These payables are recognised at historical cost in the Statement of Financial Position.

5.2 Lease commitments

Lease commitments represent amounts owing from the reporting date to the end of the lease contract. These commitments are not recognised in the Statement of Financial Position as a liability or as expenditure in the Statement of Financial Performance, but are included in the Disclosure Notes.

Operating and finance lease commitments are expensed when the payments are made. Assets acquired in terms of finance lease agreements are disclosed in the Annexures and Disclosure Notes to the Financial Statements.

5.3 Accruals

Accruals represent goods/services that have been received, but where no invoice has been received from the supplier at the reporting date, or where an invoice has been received but final authorisation for payment has not been effected on the system.

Accruals are not recognised in the Statement of Financial Position as a liability or as expenditure in the Statement of Financial Performance, but are included in the Disclosure Notes.

5.4 Contingent liabilities

A contingent liability is a possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the Department; or

A contingent liability is a present obligation that arises from past events but is not recognised because:

- It is not probable that an outflow of resources embodying economic benefits or service potential will be required to settle the obligation; or

ACCOUNTING POLICIES

for the year ended 31 March 2007

- The amount of the obligation cannot be measured with sufficient reliability.

Contingent liabilities are included in the Disclosure Notes.

5.5 Commitments

Commitments represent goods/services that have been approved and/or contracted, but where no delivery has taken place at the reporting date.

Commitments are not recognised in the Statement of Financial Position as a liability or as expenditure in the Statement of Financial Performance, but are included in the Disclosure Notes.

6. Net Assets

6.1 Recoverable revenue

Amounts are recognised as recoverable revenue when a payment made in a previous financial year becomes recoverable from a debtor in the current financial year.

7. Related party transactions

Related parties are departments that control or significantly influence entities in making financial and operating decisions. Specific information with regard to related party transactions is included in the Disclosure Notes.

8. Key management personnel

Key management personnel are those persons entrusted with the authority and responsibility for planning, directing and controlling the activities of the Department. Compensation paid to key management personnel, including their family members, where relevant, is included in the Disclosure Notes.

APPROPRIATION STATEMENT

for the year ended 31 March 2007

Appropriation per Programme									
	Adjusted Appropriation	2006/07						2005/06	
		Shifting of Funds	Virement	Final Appropriation	Actual Expenditure	Variance	Expenditure as % of Final Appropriation	Final Appropriation	Actual Expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
1. Corporate Services and Governance									
Current payment	66 739	(4)	5 813	72 548	70 538	2 010	97,2%	93 030	92 664
Transfers and subsidies	2 369	4	246	2 619	2 619	-	100,0%	2 940	2 930
Payment for capital assets	143 103	-	1 085	144 188	144 087	101	99,9%	1 539	1 528
2. Science and Technology Expert Services									
Current payment	41 738	(628)	(1 399)	39 711	39 626	85	99,8%	31 501	29 831
Transfers and subsidies	8 606	102	-	8 708	8 680	28	99,7%	6 280	6 271
Payment for capital assets	212	526	-	738	647	91	87,7%	502	499
3. International Cooperation and Resources									
Current payment	65 127	(19 491)	(3 500)	42 136	42 005	131	99,7%	31 907	31 777
Transfers and subsidies	62 670	19 132	-	81 802	81 791	11	100,0%	45 395	45 395
Payment for capital assets	149	359	-	508	508	-	100,0%	463	463
4. Frontier Science and Technology									
Current payment	9 407	(122)	(1 252)	8 033	7 940	93	98,8%	7 275	6 874
Transfers and subsidies	1 629 492	-	25 058	1 654 550	1 654 543	7	100,0%	1 382 376	1 382 368
Payment for capital assets	31	122	-	153	153	-	100,0%	104	104
5. Government Sector Programmes and Cooperation									
Current payment	21 850	(26)	(7 896)	13 928	13 895	33	99,8%	10 391	9 832
Transfers and subsidies	565 414	-	(18 155)	547 259	545 755	1 504	99,7%	428 128	428 122
Payment for capital assets	186	26	-	212	212	-	100,0%	105	95
SUBTOTAL	2 617 093	-	-	2 617 093	2 612 999	4 094	99,8%	2 041 936	2 038 753
Statutory Appropriation									
Current payment									
Transfers and subsidies									
Payment for capital assets									
TOTAL	2 617 093	-	-	2 617 093	2 612 999	4 094	99,8%	2 041 936	2 038 753
Reconciliation with Statement of Financial Performance									
Add:									
Prior year unauthorised expenditure approved with funding				-				-	
Departmental receipts				1 029				229	
Local and foreign aid assistance received				-				32	
Actual amounts per Statements of Financial Performance (Total revenue)				2 618 122				2 042 197	
Add:									
Local and foreign aid assistance				-				-	
Prior year unauthorised expenditure approved				-				-	
Prior year fruitless and wasteful expenditure authorised				-				-	
Actual amounts per Statements of Financial Performance (Total expenditure)					2 612 999				2 038 753

APPROPRIATION STATEMENT

for the year ended 31 March 2007

Appropriation per Economic Classification									
	2006/07							2005/06	
	Adjusted Appropriation	Shifting of Funds	Virement	Final Appropriation	Actual Expenditure	Variance	Expenditure as % of Final Appropriation	Final Appropriation	Actual Expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Current payments									
Compensation of employees	86 957	(2 680)	-	84 277	83 743	534	99,4%	65 231	65 125
Goods and services	117 904	(17 591)	(8 322)	91 991	90 173	1 818	98,0%	108 844	105 824
Interest and rent on land	-	-	-	-	-	-	-	-	-
Financial transactions in assets and liabilities	-	-	88	88	88	-	100,0%	29	29
Transfers and subsidies									
Provinces and municipalities	63	1	-	64	64	-	100,0%	220	193
Departmental agencies and accounts	1 257 230	(107 546)	11 979	1 161 663	1 160 159	1 504	99,9%	809 194	809 189
Universities and technikons	12 667	33 305	-	45 972	45 972	-	100,0%	32 274	32 274
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	505 802	233 917	1 000	740 719	740 719	-	100,0%	596 981	596 981
Non-profit institutions	492 545	(140 953)	(6 077)	345 515	345 490	25	100,0%	425 816	425 816
Households	244	514	247	1 005	984	21	97,9%	634	633
Payments for capital assets									
Buildings and other fixed structures	133 174	-	-	133 174	133 174	-	100,0%	-	-
Machinery and equipment	10 507	1 033	1 085	12 625	12 433	192	98,5%	2 713	2 689
Biological or cultivated assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
TOTAL	2 617 093	-	-	2 617 093	2 612 999	4 094	99,8%	2 041 936	2 038 753

Statutory Appropriation									
Details of direct changes against the National/Provincial Revenue Fund	2006/07							2005/06	
	Adjusted Appropriation	Shifting of Funds	Virement	Final Appropriation	Actual Expenditure	Variance	Expenditure as % of Final Appropriation	Final Appropriation	Actual Expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
List all direct charges against the National/Provincial Revenue Fund									
President and Deputy President salaries									
Member of Executive Committee / Parliamentary officers/legislature									
Judges' and Magistrates' salaries									
Sector Education and Training Authorities (SETA)									
National Skills Fund									
TOTAL									

DETAILS PER PROGRAMME I – ADMINISTRATION

for the year ended 31 March 2007

Programme per Sub-programme	2006/07							2005/06	
	Adjusted Appropriation	Shifting of Funds	Virement	Final Appropriation	Actual Expenditure	Variance	Expenditure as % of Final Appropriation	Final Appropriation	Actual Expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
I.1 Minister									
Current payment	888	150	-	1 038	1 038	-	100,0%	950	933
Transfers and subsidies	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
I.2 Deputy Minister									
Current payment	721	144	-	865	865	-	100,0%	785	776
Transfers and subsidies	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
I.3 Management									
Current payment	6 370	(1 883)	-	4 487	4 487	-	100,0%	4 629	4 607
Transfers and subsidies	-	4	-	4	4	-	100,0%	15	15
Payment for capital assets	-	-	-	-	-	-	-	46	46
I.4 Corporate Services									
Current payment	52 066	3 051	5 813	60 930	59 772	1 158	98,1%	84 318	84 002
Transfers and subsidies	2 368	-	245	2 613	2 613	-	100,0%	2 919	2 909
Payment for capital assets	143 073	-	1 007	144 080	143 979	101	99,9%	1 429	1 418
I.5 Governance									
Current payment	3 992	(1 466)	-	2 526	2 526	-	100,0%	2 348	2 346
Transfers and subsidies	1	-	1	2	2	-	100,0%	6	6
Payment for capital assets	30	-	78	108	108	-	100,0%	64	64
I.6 Property Management									
Current payment	2 702	-	-	2 702	1 850	852	68,5%	-	-
Transfers and subsidies	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
TOTAL	212 211	-	7 144	219 355	217 244	2 111	99,0%	97 509	97 122

Economic Classification	2006/07							2005/06	
	Adjusted Appropriation	Shifting of Funds	Virement	Final Appropriation	Actual Expenditure	Variance	Expenditure as % of Final Appropriation	Final Appropriation	Actual Expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Current payment									
Compensation of employees	35 169	(837)	-	34 332	33 835	497	98,6%	28 581	28 533
Goods and services	31 570	833	5 725	38 128	36 615	1 513	96,0%	64 420	64 102
Interest and rent on land	-	-	-	-	-	-	-	-	-
Financial transactions in assets and liabilities	-	-	88	88	88	-	100,0%	29	29
Transfers and subsidies to:									
Provinces and municipalities	27	1	-	28	28	-	100,0%	92	87
Departmental agencies and accounts	277	(277)	-	-	-	-	-	432	427
Universities and technikons	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	1	(1)	-	-	-	-	-	8	8
Non-profit institutions	2 060	-	-	2 060	2 060	-	100,0%	2 280	2 280
Households	4	281	246	531	531	-	100,0%	128	128
Payment for capital assets									
Buildings and other fixed structures	133 174	-	-	133 174	133 174	-	100,0%	-	-
Machinery and equipment	9 929	-	1 085	11 014	10 913	101	99,1%	1 539	1 528
Biological or cultivated assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
TOTAL	212 211	-	7 144	219 355	217 244	2 111	99,0%	97 509	97 122

DETAILS PER PROGRAMME 2 – SCIENCE AND TECHNOLOGY EXPERT SERVICES

for the year ended 31 March 2007

Programme per Sub-programme	2006/07							2005/06	
	Adjusted Appropriation	Shifting of Funds	Virement	Final Appropriation	Actual Expenditure	Variance	Expenditure as % of Final Appropriation	Final Appropriation	Actual Expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
2.1 Expert Services									
Current payment	32 643	(1 689)	(1 399)	29 555	29 532	23	99,9%	23 522	22 372
Transfers and subsidies	8 605	100	-	8 705	8 677	28	99,7%	6 266	6 264
Payment for capital assets	176	528	-	704	613	91	87,1%	267	264
2.2 National Advisory Council on Innovation									
Current payment	9 095	1 061	-	10 156	10 094	62	99,4%	7 979	7 459
Transfers and subsidies	1	2	-	3	3	-	100,0%	14	7
Payment for capital assets	36	(2)	-	34	34	-	100,0%	235	235
TOTAL	50 556	-	(1 399)	49 157	48 953	204	99,6%	38 283	36 601

Economic Classification	2006/07							2005/06	
	Adjusted Appropriation	Shifting of Funds	Virement	Final Appropriation	Actual Expenditure	Variance	Expenditure as % of Final Appropriation	Final Appropriation	Actual Expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Current payment									
Compensation of employees	23 637	(1 914)	-	21 723	21 707	16	99,9%	15 962	15 945
Goods and services	18 101	1 286	(1 399)	17 988	17 919	69	99,6%	15 539	13 886
Interest and rent on land	-	-	-	-	-	-	-	-	-
Financial transactions in assets and liabilities	-	-	-	-	-	-	-	-	-
Transfers and subsidies to:									
Provinces and municipalities	17	-	-	17	17	-	100,0%	57	48
Departmental agencies and accounts	38	2 562	-	2 600	2 600	-	100,0%	1 081	1 081
Universities and technikons	360	725	-	1 085	1 085	-	100,0%	529	529
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	2	(2)	-	-	-	-	-	119	119
Non-profit institutions	7 979	(3 242)	-	4 737	4 727	10	99,8%	4 294	4 249
Households	210	59	-	269	251	18	93,3%	200	200
Payment for capital assets									
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	212	526	-	738	647	91	87,7%	502	499
Biological or cultivated assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
TOTAL	50 556	-	(1 399)	49 157	48 953	204	99,6%	38 283	36 601

DETAILS PER PROGRAMME 3 – INTERNATIONAL COOPERATION AND RESOURCES

for the year ended 31 March 2007

Programme per Sub-programme	2006/07							2005/06	
	Adjusted Appropriation	Shifting of Funds	Virement	Final Appropriation	Actual Expenditure	Variance	Expenditure as % of Final Appropriation	Final Appropriation	Actual Expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
3.1 Multilateral and Africa									
Current payment	44 028	(26 143)	(3 500)	14 385	14 337	48	99,7%	12 143	12 138
Transfers and subsidies	36 724	17 650		54 374	54 363	11	100,0%	45 276	45 276
Payment for capital assets	11	146		157	157	-	100,0%	115	115
3.2 International Resources									
Current payment	11 383	(1 157)		10 226	10 171	55	99,5%	9 312	9 199
Transfers and subsidies	18 293	(1 395)		16 898	16 898	-	100,0%	26	26
Payment for capital assets	115	101		216	216	-	100,0%	292	292
3.3 Bilateral Cooperation									
Current payment	9 716	7 809		17 525	17 497	28	99,8%	10 452	10 440
Transfers and subsidies	7 653	2 877		10 530	10 530	-	100,0%	93	93
Payment for capital assets	23	112		135	135	-	100,0%	56	56
TOTAL	127 946	-	(3 500)	124 446	124 304	142	99,9%	77 765	77 635

Economic Classification	2006/07							2005/06	
	Adjusted Appropriation	Shifting of Funds	Virement	Final Appropriation	Actual Expenditure	Variance	Expenditure as % of Final Appropriation	Final Appropriation	Actual Expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Current payment									
Compensation of employees	16 410	994		17 404	17 401	3	100,0%	13 432	13 411
Goods and services	48 717	(20 485)	(3 500)	24 732	24 604	128	99,5%	18 475	18 366
Interest and rent on land	-	-	-	-	-	-	-	-	-
Financial transactions in assets and liabilities	-	-	-	-	-	-	-	-	-
Transfers and subsidies to:									
Provinces and municipalities	11	-	-	11	11	-	100,0%	37	37
Departmental agencies and accounts	28 879	685	-	29 564	29 564	-	100,0%	25 319	25 319
Universities and technikons	1 149	2 040	-	3 189	3 189	-	100,0%	1 855	1 855
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	9 025	19 667	-	28 692	28 692	-	100,0%	10 178	10 178
Non-profit institutions	23 603	(3 425)	-	20 178	20 170	8	100,0%	7 997	7 997
Households	3	165	-	168	165	3	98,2%	9	9
Payment for capital assets									
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	149	359	-	508	508	-	100,0%	463	463
Biological or cultivated assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
TOTAL	127 946	-	(3 500)	124 446	124 304	142	99,9%	77 765	77 635

DETAILS PER PROGRAMME 4 – FRONTIER SCIENCE AND TECHNOLOGY

for the year ended 31 March 2007

Programme per Sub-programme	2006/07							2005/06	
	Adjusted Appropriation	Shifting of Funds	Virement	Final Appropriation	Actual Expenditure	Variance	Expenditure as % of Final Appropriation	Final Appropriation	Actual Expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
4.1 Frontier Programmes									
Current payment	6 418	(448)	(1 252)	4 718	4 701	17	99,6%	4 366	4 249
Transfers and subsidies	881 238	(8 561)	6 860	879 537	879 530	7	100,0%	779 279	779 275
Payment for capital assets	31	61		92	92	-	100,0%	72	72
4.2 Human Capital									
Current payment	2 989	326		3 315	3 239	76	97,7%	2 909	2 625
Transfers and subsidies	748 254	8 561	18 198	775 013	775 013	-	100,0%	603 097	603 093
Payment for capital assets	-	61		61	61	-	100,0%	32	32
TOTAL	1 638 930	-	23 806	1 662 736	1 662 636	100	100%	1 389 755	1 389 346

Economic Classification	2006/07							2005/06	
	Adjusted Appropriation	Shifting of Funds	Virement	Final Appropriation	Actual Expenditure	Variance	Expenditure as % of Final Appropriation	Final Appropriation	Actual Expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Current payment									
Compensation of employees	4 293	(233)		4 060	4 049	11	99,7%	2 394	2 387
Goods and services	5 114	111	(1 252)	3 973	3 891	82	97,9%	4 881	4 487
Interest and rent on land									
Financial transactions in assets and liabilities									
Transfers and subsidies to:									
Provinces and municipalities	3			3	3	-	100,0%	15	7
Departmental agencies and accounts	857 095	49 237	17 000	923 332	923 332	-	100,0%	605 120	605 120
Universities and technikons	10 534	16 899		27 433	27 433	-	100,0%	25 161	25 161
Foreign governments and international organisations									
Public corporations and private enterprises	484 260	39 759	1 000	525 019	525 019	-	100,0%	469 263	469 263
Non-profit institutions	277 600	(105 897)	7 057	178 760	178 753	7	100,0%	282 524	282 524
Households		2	1	3	3	-	100,0%	293	293
Payment for capital assets									
Buildings and other fixed structures									
Machinery and equipment	31	122		153	153	-	100,0%	104	104
Biological or cultivated assets									
Software and other intangible assets									
Land and subsoil assets									
TOTAL	1 638 930	-	23 806	1 662 736	1 662 636	100	100%	1 389 755	1 389 346

DETAILS PER PROGRAMME 5 – GOVERNMENT SECTORAL PROGRAMMES AND COORDINATION

for the year ended 31 March 2007

Programme per Sub-programme	2006/07							2005/06	
	Adjusted Appropriation	Shifting of Funds	Virement	Final Appropriation	Actual Expenditure	Variance	Expenditure as % of Final Appropriation	Final Appropriation	Actual Expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
5.1 Science and Technology for Economic Impact									
Current payment	11 681	(84)	(4 642)	6 955	6 944	11	99,8%	5 606	5 257
Transfers and subsidies	311 041	(37)	(11 955)	299 049	297 545	1 504	99,5%	243 922	243 919
Payment for capital assets	80	-	-	80	80	-	100,0%	46	42
5.2 Science and Technology for Social Impact									
Current payment	2 713	73	-	2 786	2 776	10	99,6%	1 975	1 879
Transfers and subsidies	254 373	36	(6 200)	248 209	248 209	-	100,0%	184 200	184 197
Payment for capital assets	53	11	-	64	64	-	100,0%	42	39
5.3 Sector Research and Development Planning/Coordination									
Current payment	7 456	(15)	(3 254)	4 187	4 175	12	99,7%	2 810	2 696
Transfers and subsidies	-	1	-	1	1	-	100,0%	6	6
Payment for capital assets	53	15	-	68	68	-	100,0%	17	14
TOTAL	587 450	-	(26 051)	561 399	559 862	1 537	99,7%	438 624	438 049

Economic Classification	2006/07							2005/06	
	Adjusted Appropriation	Shifting of Funds	Virement	Final Appropriation	Actual Expenditure	Variance	Expenditure as % of Final Appropriation	Final Appropriation	Actual Expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Current payment									
Compensation of employees	7 448	(690)	-	6 758	6 751	7	99,9%	4 862	4 849
Goods and services	14 402	664	(7 896)	7 170	7 144	26	99,6%	5 529	4 983
Interest and rent on land									
Financial transactions in assets and liabilities									
Transfers and subsidies to:									
Provinces and municipalities	5			5	5	-	100,0%	19	14
Departmental agencies and accounts	370 941	(159 753)	(5 021)	206 167	204 663	1 504	99,3%	177 242	177 242
Universities and technikons	624	13 641	-	14 265	14 265	-	100,0%	4 729	4 729
Foreign governments and international organisations									
Public corporations and private enterprises	12 514	174 494	-	187 008	187 008	-	100,0%	117 413	117 413
Non-profit institutions	181 303	(28 389)	(13 134)	139 780	139 780	-	100,0%	128 721	128 721
Households	27	7	-	34	34	-	100,0%	4	3
Payment for capital assets									
Buildings and other fixed structures									
Machinery and equipment	186	26	-	212	212	-	100,0%	105	95
Biological or cultivated assets									
Software and other intangible assets									
Land and subsoil assets									
TOTAL	587 450	-	(26 051)	561 399	559 862	1 537	99,7%	438 624	438 049

NOTES TO THE APPROPRIATION STATEMENT

for the year ended 31 March 2007

1. Detail of transfers and subsidies as per Appropriation Act (after Virement):

Detail of these transactions can be viewed in Note 7 (Transfers and Subsidies) and Annexure I (F-L) to the Annual Financial Statements.

2. Detail of specifically and exclusively appropriated amounts voted (after Virement):

Detail of these transactions can be viewed in Note I (Annual Appropriation) to the Annual Financial Statements.

3. Detail on financial transactions in assets and liabilities

Detail of these transactions per Programme can be viewed in Note 6 (Financial transactions in assets and liabilities) to the Annual Financial Statements.

4. Explanations of material variances from Amounts Voted (after Virement):

4.1 Per Programme:

	Final Appropriation	Actual Expenditure	Variance R'000	Variance as a % of Final Appropriation
	R'000	R'000	R'000	%
Programme Name				
Corporate Services and Governance	219 355	217 244	2 111	0,96%

The variance was due to savings under the Property Management objective. A request has been submitted to the National Treasury for this and other savings that realised under the Economic Classification, "Goods and Services".

	Final Appropriation	Actual Expenditure	Variance R'000	Variance as a % of Final Appropriation
	R'000	R'000	R'000	%
Programme Name				
Science and Technology Expert Services	49 157	48 953	204	0,41%

	Final Appropriation	Actual Expenditure	Variance R'000	Variance as a % of Final Appropriation
	R'000	R'000	R'000	%
Programme Name				
International Cooperation and Resources	124 446	124 304	142	0,11%

	Final Appropriation	Actual Expenditure	Variance R'000	Variance as a % of Final Appropriation
	R'000	R'000	R'000	%
Programme Name				
Frontier Science and Technology	1 662 736	1 662 636	100	0,01%

NOTES TO THE APPROPRIATION STATEMENT

for the year ended 31 March 2007

	Final Appropriation	Actual Expenditure	Variance R'000	Variance as a % of Final Appropriation
	R'000	R'000	R'000	%
Programme Name				
Government Sector Programmes and Coordination	561 399	559 862	1 537	0,27%

The variance realised under the Programme, "Technology Planning and Diffusion". A request for rollover has been submitted to the National Treasury for this under the Economic Classification, "Transfer and Subsidies".

4.2 Per Economic Classification:

Per Economic Classification	2006/07	2005/06
	R'000	R'000
Current payment:		
Compensation of employees	83 743	65 125
Goods and services	90 173	105 824
Financial transactions in assets and liabilities	88	29
Transfers and subsidies:		
Provinces and municipalities	64	193
Departmental agencies and accounts	1 160 159	809 189
Universities and technikons	45 972	32 274
Public corporations and private enterprises	740 719	596 981
Non-profit institutions	345 490	425 816
Households	984	633
Payments for capital assets:		
Buildings and other fixed structures	133 174	-
Machinery and equipment	12 433	2 689

The variances realised under the Economic Classifications "Goods and Services" and "Transfers and Subsidies". The savings resulted mainly from funds that could not be disbursed in respect of "Property Management" and other minimal savings ("Goods and Services"), as well as under "Technology Planning and Diffusion" ("Transfers and Subsidies"). The savings were due to contracts that could not be finalised before 31 March 2007. A request to roll over all the unspent funds mentioned above was submitted to the National Treasury.

STATEMENT OF FINANCIAL PERFORMANCE

for the year ended 31 March 2007

	Note	2006/07 R'000	2005/06 R'000
REVENUE			
Annual appropriation	1.	2 617 093	2 041 936
Statutory appropriation	2.	-	-
Appropriation for unauthorised expenditure approved	11.	-	-
Departmental revenue	3.	1 029	229
CARA Fund assistance	4A	-	-
Local and foreign aid assistance	4.	-	32
TOTAL REVENUE		2 618 122	2 042 197
EXPENDITURE			
Current expenditure			
Compensation of employees	5.	83 743	65 125
Goods and services	6.	90 173	105 824
Interest and rent on land	7.	-	-
Financial transactions in assets and liabilities	8.	88	29
CARA Fund assistance	4A	-	-
Local and foreign aid assistance	4.	-	-
Unauthorised expenditure approved	11.	-	-
Total current expenditure		174 004	170 978
Transfers and subsidies	9.	2 293 388	1 865 086
Expenditure for capital assets			
Buildings and other fixed structures	10.	133 174	-
Machinery and Equipment	10.	12 433	2 689
Biological or cultivated assets	10.	-	-
Software and other intangible assets	10.	-	-
Land and subsoil assets	10.	-	-
CARA Fund assistance	4A	-	-
Local and foreign aid assistance	4.	-	-
Unauthorised expenditure approved	11.	-	-
Total expenditure for capital assets		145 607	2 689
TOTAL EXPENDITURE		2 612 999	2 038 753

STATEMENT OF FINANCIAL PERFORMANCE – CONTINUED

for the year ended 31 March 2007

	Note	2006/07 R'000	2005/06 R'000
SURPLUS/(DEFICIT)		5 123	3 444
Add back unauthorised expenditure	11.	-	-
Add back fruitless and wasteful expenditure	12.	-	-
SURPLUS/(DEFICIT) FOR THE YEAR		5 123	3 444
Reconciliation of Net Surplus/(Deficit) for the year			
Voted Funds to be surrendered to the revenue fund	19.	4 094	3 183
Departmental revenue to be surrendered to the revenue fund	20.	1 029	229
Local and foreign aid assistance	4.	-	32
CARA fund assistance	4A	-	-
SURPLUS/(DEFICIT) FOR THE YEAR		5 123	3 444

STATEMENT OF FINANCIAL POSITION

as at 31 March 2007

	Note	2006/07 R'000	2005/06 R'000
ASSETS			
Current assets			
		4 139	6 305
Unauthorised expenditure	11.	-	-
Fruitless and wasteful expenditure	12.	-	-
Cash and cash equivalents	13.	3 015	4 999
Other financial assets	14.	-	-
Prepayments and advances	15.	83	204
Receivables	16.	1 041	1 102
Investments	17.	-	-
Loans	18.	-	-
Local and foreign aid assistance receivable	4.	-	-
Non-current assets			
Investments	17.	-	-
Loans	18.	-	-
Other financial assets	14.	-	-
TOTAL ASSETS		4 139	6 305
LIABILITIES			
Current liabilities			
		4 105	6 302
Voted funds to be surrendered to the Revenue Fund	19.	4 094	3 183
Departmental revenue to be surrendered to the Revenue Fund	20.	11	4
Bank overdraft	21.	-	-
Payables	22.	-	3 115
Local and foreign aid assistance repayable	4.	-	-
Local and foreign aid assistance unutilised	4.	-	-
Non-current liabilities			
Payables	23.	-	-
TOTAL LIABILITIES		4 105	6 302
NET ASSETS		34	3
Represented by:			
Capitalisation Reserves		-	-
Recoverable revenue		34	3
Retained funds (Legislatures/Parliament/CARA Fund assistance)		-	-
Revaluation Reserves (Housing Dept)		-	-
TOTAL		34	3

STATEMENT OF CHANGES IN NET ASSETS

for the year ended 31 March 2007

	Note	2006/07 R'000	2005/06 R'000
Recoverable revenue			
Opening balance		3	5
Transfers		31	(2)
Debts written off	6.3	(3)	(2)
Debts recovered (included in departmental revenue)		(31)	(2)
Debts raised		65	
Closing balance		34	3
TOTAL		34	3

CASH FLOW STATEMENT

for the year ended 31 March 2007

	Note	2006/07 R'000	2005/06 R'000
CASH FLOWS FROM OPERATING ACTIVITIES			
Receipts		2 618 065	2 042 197
Annual appropriated funds received	1.1	2 617 093	2 041 936
Departmental revenue received		972	229
Local and foreign aid assistance received	3	-	32
Net (increase)/decrease in working capital		(2 933)	2 120
Surrendered to Revenue Fund		(4 205)	(434)
Current payments		(174 004)	(170 978)
Transfers and subsidies paid		(2 293 388)	(1 865 086)
Net cash flow available from operating activities	15	<u>143 535</u>	<u>7 819</u>
CASH FLOWS FROM INVESTING ACTIVITIES			
Payments for capital assets		(145 607)	(2 689)
Proceeds from sale of capital assets	2	57	-
Net cash flows from investing activities		<u>(145 550)</u>	<u>(2 689)</u>
CASH FLOWS FROM FINANCING ACTIVITIES			
Increase/(decrease) in net assets		31	(2)
Net cash flows from financing activities		<u>31</u>	<u>(2)</u>
Net increase/(decrease) in cash and cash equivalents		(1 984)	5 128
Cash and cash equivalents at the beginning of the period		4 999	(129)
Cash and cash equivalents at end of period	16	<u>3 015</u>	<u>4 999</u>

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

I. Annual Appropriation

I.1 Annual Appropriation

Included are funds appropriated in terms of the Appropriation Act for National Departments (Voted funds).

Programmes	Final Appropriation	Actual Funds Received	Funds not requested/ not received	Appropriation received 2005/06
	R'000	R'000	R'000	R'000
Corporate Services and Governance	219 355	219 355	-	97 509
Science and Technology Expert Services	49 157	49 157	-	38 283
International Cooperation and Resources	124 446	124 446	-	77 765
Frontier Science and Technology	1 662 736	1 662 736	-	1 389 755
Government Sector Programmes and Coordination	561 399	561 399	-	438 624
Total	2 617 093	2 617 093	-	2 041 936

2. Departmental revenue to be surrendered to Revenue Fund

Description (Specify material amounts separately)

	Note	2006/07	2005/06
		R'000	R'000
Sales of goods and services other than capital assets	2.1	301	43
Sales of capital assets	2.3	57	-
Financial transactions in assets and liabilities	2.3	671	186
Departmental revenue collected		1 029	229

2.1 Sales of goods and services other than capital assets

	2006/07	2005/06
	R'000	R'000
Sales of goods and services produced by the Department		
Sales by market establishment	301	43
Total	301	43

2.2 Sale of capital assets

	2006/07	2005/06
	R'000	R'000
Other capital assets	57	-
Total	57	-

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

2.3 Financial transactions in assets and liabilities

Nature of recovery

	2006/07	2005/06
	R'000	R'000
Other receipts including Recoverable Revenue	671	186
Total	671	186

3. Local and foreign aid assistance

3.1 Assistance received in cash from RDP

	2006/07	2005/06
	R'000	R'000
Foreign		
Opening Balance	-	(32)
Revenue	-	32
Expenditure	-	-
Current	-	-
Capital	-	-
Closing Balance	-	-
Analysis of balance		
Local and foreign aid receivable	-	-
Local and foreign aid unutilised	-	-
Local and foreign aid payable to RDP fund/donors	-	-
Closing balance	-	-

4. Compensation of employees

4.1 Salaries and wages

	2006/07	2005/06
	R'000	R'000
Basic salary	54 368	42 998
Performance award	2 540	1 258
Service-based	160	347
Compensative/circumstantial	2 328	1 832
Periodic payments	609	406
Other non-pensionable allowances	15 398	11 591
Total	75 403	58 432

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

4.2 Social contributions

4.2.1 Employer contributions

	2006/07	2005/06
	R'000	R'000
Pension	6 259	4 762
Medical	2 073	1 924
Bargaining Council	8	7
Total	8 340	6 693
	83 743	65 125
Average number of employee	265	220

5. Goods and services

	Note	2006/07	2005/06
		R'000	R'000
Advertising		3 629	3 948
Attendance fees (including registration fees)		974	3 012
Bank charges and card fees		36	94
Bursaries (employees)		402	259
Communication		6 211	4 648
Computer services		1 821	3 189
Consultants, contractors and special services		25 582	42 396
Courier and delivery services		642	386
Drivers' licences and permits		3	1
Entertainment		1 929	1 296
External audit fees	5.1	1 304	1 540
Equipment less than R5 000		1 822	8 684
Honoraria (Voluntary workers)		12	-
Inventory	5.2	4 455	4 197
Maintenance, repairs and running costs		116	111
Operating leases		3 147	1 107
Personnel agency fees		635	1 169
Photographic services		34	776
Plants, flowers and other decorations		6	69
Printing and publications		237	34
Resettlement costs		311	211
Subscriptions		1 061	618
Travel and subsistence	5.3	30 454	24 874
Venues and facilities		4 148	3 201
Protective, special clothing & uniforms		3	4
Training & staff development		1 199	-
Total		90 173	105 824

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

5.1 External audit fees

	2006/07	2005/06
	R'000	R'000
Regulatory audits	746	1 540
Performance audits	482	-
Other audits	76	-
Total	1 304	1 540

5.2 Inventory

	2006/07	2005/06
	R'000	R'000
Domestic consumables	76	88
Fuel, oil and gas	272	205
Parts and other maintenance material	48	188
Stationery and printing	4 059	3 716
Total	4 455	4 197

5.3 Travel and subsistence

	2006/07	2005/06
	R'000	R'000
Local	13 933	11 117
Foreign	16 521	13 757
Total	30 454	24 874

6. Financial transactions in assets and liabilities

	Note	2006/07	2005/06
		R'000	R'000
Other material losses written off	6.1	25	29
Debts written off	6.2	63	-
Total		88	29

6.1 Other material losses written off

	2006/07	2005/06
	R'000	R'000
Nature of losses		
Damages to hired vehicles	25	28
Traffic offences	-	1
Total	25	29

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

6.2 Debts written off

	2006/07	2005/06
	R'000	R'000
Nature of debts written off		
Leave without pay debt	4	-
Salary debt	3	-
Travel and Subsistence debt	55	-
Tax debt	1	-
Total	63	-

6.3 Irrecoverable amounts written off

	2006/07	2005/06
	R'000	R'000
Nature of debts written off		
Other		
Private Travel and Subsistence expenditure	3	-
Total	3	-

7. Transfers and subsidies

	Note	2006/07	2005/06
		R'000	R'000
Provinces and municipalities	Annexure IF	64	193
Departmental agencies and accounts	Annexure IG	1 160 159	809 189
Universities and technikons	Annexure IH	45 972	32 274
Public corporations and private enterprises	Annexure II	740 719	596 981
Non-profit institutions	Annexure IK	345 490	425 816
Households	Annexure IL	984	633
Total		2 293 388	1 865 086

8. Expenditure for capital assets

		2006/07	2005/06
		R'000	R'000
Buildings and other fixed structures	25	133 174	-
Machinery and equipment	25	12 433	2 689
Total		145 607	2 689

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

9. Cash and cash equivalents

	2006/07	2005/06
	R'000	R'000
Consolidated Paymaster General Account	2 982	4 969
Cash on hand	33	30
Total	3 015	4 999

10. Prepayments and advances

	2006/07	2005/06
	R'000	R'000
Staff advances	-	2
Travel and Subsistence	83	202
Total	83	204

11. Receivables

	Note	Less than one year	One to three years	Older than three years	2006/07	2005/06
		R'000	R'000	R'000	Total R'000	Total R'000
Households and non-profit institutions	11.1	-	536	-	536	536
Staff debtors	11.2	6	-	-	6	2
Other debtors	11.3	162	110	-	272	388
Intergovernmental receivables	Annexure 4	47	180	-	227	176
Total		215	826	-	1 041	1 102

11.1 Households and non-profit institutions

	2006/07	2005/06
	R'000	R'000
Households and non-profit institutions		
South African Agency for the Advancement of Science and Technology	536	536
Total	536	536

11.2 Staff debtors

	2006/07	2005/06
	R'000	R'000
Travel and Subsistence debt	-	2
Bursary debt	6	-
Total	6	2

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

11.3 Other debtors

	2006/07	2005/06
	R'000	R'000
Persal salaries and stoppages	31	106
Claims recoverable: Other recoverable amounts	33	85
Claims recoverable: Theft and Losses	170	107
Previous employees – Resettlement debt	28	-
Travel and Subsistence debt	-	81
Income Tax debt	10	2
Salary overpayment	-	3
Leave without pay	-	4
Total	272	388

12. Voted funds to be surrendered to the Revenue Fund

	2006/07	2005/06
	R'000	R'000
Opening balance	3 183	188
Transfer from Statement of Financial Performance	4 094	3 183
Paid during the year	(3 183)	(188)
Closing balance	4 094	3 183

13. Departmental revenue to be surrendered to the Revenue Fund

	2006/07	2005/06
	R'000	R'000
Opening balance	4	21
Transfer from Statement of Financial Performance	1 029	229
Paid during the year	(1 022)	(246)
Closing balance	11	4

14. Payables – current

Description

	Notes	30 Days	30+ Days	2006/07 Total	2005/06 Total
		R'000	R'000	R'000	R'000
Clearing accounts	14.1	-	-	-	3 017
Other payables	14.2	-	-	-	98
Total		-	-	-	3 115

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

14.1 Clearing accounts

	2006/07	2005/06
	R'000	R'000
Description		
National Service Sector Development Framework: "Leveraging Strategy"	-	3 017
Total	-	3 017

14.2 Other payables

	2006/07	2005/06
	R'000	R'000
Description		
Persal salaries and stoppages	-	2
Other	-	96
Total	-	98

15. Net cash flow available from operating activities

	2006/07	2005/06
	R'000	R'000
Net surplus/(deficit) as per Statement of Financial Performance	5 123	3 444
Add back non-cash/cash movements not deemed operating activities	138 412	4 375
(Increase)/decrease in receivables – current	61	(527)
(Increase)/decrease in prepayments and advances	121	92
(Increase)/decrease in other current assets	-	32
Increase/(decrease) in payables – current	(3 115)	2 555
Proceeds from sale of capital assets	(57)	-
Expenditure on capital assets	145 607	2 689
Surrenders to Revenue Fund	(4 205)	(434)
Other non-cash items	-	(32)
Net cash flow generated by operating activities	143 535	7 819

16. Reconciliation of cash and cash equivalents for cash flow purposes

	2006/07	2005/06
	R'000	R'000
Consolidated Paymaster General account	2 982	4 969
Cash on hand	33	30
Total	3 015	4 999

DISCLOSURE NOTES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

These amounts are not recognised in the Annual Financial Statements and are disclosed to enhance the usefulness of the Annual Financial Statements.

17. Contingent liabilities

	Note	2006/07	2005/06
		R'000	R'000
Liable to	Nature		
Housing loan guarantees	Employees	223	541
Other Departments (interdepartmental unconfirmed balances)		-	74
Total		223	615

18. Commitments

	2006/07	2005/06
	R'000	R'000
Current expenditure		
Approved and contracted	59	3 581
Approved, but not yet contracted	-	-
	<u>59</u>	<u>3 581</u>
Capital expenditure		
Approved and contracted	1 192	34
Approved, but not yet contracted	-	-
	<u>1 192</u>	<u>34</u>
Total Commitments	1 251	3 615

19. Accruals

	30 Days R'000	30+ Days R'000	2006/07	2005/06
			Total R'000	Total R'000
Listed by economic classification				
Goods and services	-	591	591	3 144
Machinery and equipment	-	90	90	37
Other	-	60	60	-
Total	-	741	741	3 181
Listed by Programme level				
Programme 1: Administration			661	3 098
Programme 2: Science and Technology Expert Services			55	78
Programme 3: International Cooperation and Resources			25	3
Programme 5: Government Sector Programmes and Coordination			-	2
			<u>741</u>	<u>3 181</u>

DISCLOSURE NOTES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

	Note	2006/07 R'000	2005/06 R'000
Confirmed balances with other departments	Annexure 5		
Confirmed balances with other departments		120	1 325
Confirmed balances with other Government entities		-	45
Total		120	1 370

20. Employee benefits

	2006/07 R'000	2005/06 R'000
Leave entitlement	1 941	1 214
Thirteenth cheque	2 028	1 535
Capped leave commitments	2 377	2 151
Total	6 346	4 900

21. Lease commitments

21.1 Operating leases

2006/07	Land R'000	Buildings and other fixed structures R'000	Machinery and equipment R'000	Total R'000
Not later than 1 year	-	-	2 034	2 034
Later than 1 year and not later than 5 years	-	-	3 063	3 063
Total present value of lease liabilities	-	-	5 097	5 097

2005/06	Land R'000	Buildings and other fixed structures R'000	Machinery and equipment R'000	Total R'000
Not later than 1 year	-	-	1 302	1 302
Later than 1 year and not later than 5 years	-	-	596	596
Total present value of lease liabilities	-	-	1 898	1 898

22. Receivables for departmental revenue

	2006/07 R'000	2005/06 R'000
Sales of goods and services other than capital assets	301	43
Sales of capital assets	57	-
Financial transactions in assets and liabilities	671	186
Total	1 029	229

DISCLOSURE NOTES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

23. Related party transactions

No related party transactions took place during the period under review, other than transactions that occurred within a normal supplier/client relationship on terms and conditions no more or less favourable than those which it is reasonable to expect the Department would have adopted if dealing with that individual or entity at arm's length in the same circumstances.

24. Key management personnel

	No. of Individuals	2006/07 R'000	2005/06 R'000
Political Office Bearers (provide detail below)	2	1 605	1 432
Officials			
Level 15 to 16	8	4 314	4 120
Level 14 (incl. CFO if at a lower level)	1	561	528
Family members of key management personnel		-	-
Total		6 480	6 080

The key management personnel do not qualify for any remuneration other than the approved remuneration structures for the different classes of Key Management Personnel (Political Office Bearers and Officials).

25. Tangible capital assets

MOVEMENT IN TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2007

	Opening balance	Current Year Adjustments to Prior Year balances	Additions	Disposals	Closing Balance
	Cost R'000	Cost R'000	Cost R'000	Cost R'000	Cost R'000
BUILDING AND OTHER FIXED STRUCTURES	-	-	133 174	-	133 174
Non-residential buildings	-	-	133 174	-	133 174
MACHINERY AND EQUIPMENT	22 161	(3 582)	12 433	2 595	28 417
Transport assets	1 883	661	-	-	2 544
Computer equipment	10 079	(1 707)	6 445	619	14 198
Furniture and office equipment	8 274	(3 250)	5 914	1 927	9 011
Other machinery and equipment	1 925	714	74	49	2 664
TOTAL TANGIBLE ASSETS	22 161	(3 582)	145 607	2 595	161 591

DISCLOSURE NOTES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

25.1

ADDITIONS TO TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2007

	Cash	Non-cash	(Capital Work in Progress current costs)	Received current, not paid (Paid current year, received prior year)	Total
	Cost R'000	Fair Value R'000	Cost R'000	Cost R'000	Cost R'000
BUILDINGS AND OTHER FIXED STRUCTURES	133 174	-	-	-	133 174
Non-residential buildings	133 174	-	-	-	133 174
MACHINERY AND EQUIPMENT	12 433	-	-	-	12 433
Computer equipment	6 445	-	-	-	6 445
Furniture and office equipment	5 914	-	-	-	5 914
Other machinery and equipment	74	-	-	-	74
TOTAL	145 607	-	-	-	145 607

ADDITIONAL DISCLOSURE TO NOTE 25 OF THE ANNUAL FINANCIAL STATEMENTS: 2006/07

Acquisition of Building

An amount of R133 000 000,00 was appropriated by Cabinet for the 2006/07 financial year for the acquisition of the Department's new headquarters on the Council for Scientific and Industrial Research (CSIR) campus. It was appropriated under Programme 1: Administration, Sub-programme: Corporate Services under the Economic Classification ("Payment for Capital Assets – Buildings and Other Fixed Structures").

The Department was obligated to pay R10 200 000,00 in respect of occupational rent that was unforeseen and as a result not budgeted for. Due to this unforeseen expenditure, the Department made the decision to transfer the funds to the CSIR to negate the payment of the occupational rent.

The amount payable to the CSIR eventually escalated to R133 174 000,00 and the deficit was funded from the reprioritisation of the Voted Funds of the Department. The transaction was effected under the Economic Classification "Payment of Capital Assets" as appropriated by Cabinet.

As a result of the requirements of the comprehensive basis of accounting, as prescribed by National Treasury, the amount for the acquisition of the building was included in both Note 8 and Disclosure Note 25. The building is therefore also included in the Department's Asset Register for the year ended 31 March 2007.

The Department will, however, remove the building from its Fixed Asset Register once the transfer of the Title Deed to the Department of Public Works (PDW) has been finalised.

DISCLOSURE NOTES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

Costing Method Utilised (Fair Value)

The Department's Capital Asset Register comprises assets which are recorded at correct purchase prices and some are recorded at fair value. The difference in the carrying value of the assets in the Asset Register is due to the fact that some of the assets were transferred from the then Department of Arts, Culture, Science and Technology, to the Department, without supporting documents or invoices to use as reference for the basis of valuation. To ensure that the comparable carrying values of these assets are reflected in the financial statements, the fair value method was used in determining and recognising the carrying value of the assets.

25.2

DISPOSALS OF TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2007

	Sold (Cash)	Non-Cash	Total Cost	Cash Received Actual
	Cost R'000	Fair Value R'000	Cost R'000	Cost R'000
MACHINERY AND EQUIPMENT	2 595	-	2 595	57
Computer equipment	619	-	619	4
Furniture and office equipment	1 927	-	1 927	52
Other machinery and equipment	49	-	49	1
TOTAL	2 595	-	2 595	57

25.3

MOVEMENT IN TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2006

	Opening balance	Additions	Disposals	Closing balance
	R'000	R'000	R'000	R'000
MACHINERY AND EQUIPMENT	19 472	2 689	-	22 161
Transport assets	1 883	-	-	1 883
Computer equipment	8 027	2 052	-	10 079
Furniture and office equipment	8 169	105	-	8 274
Other machinery and equipment	1 393	532	-	1 925
TOTAL TANGIBLE ASSETS	19 472	2 689	-	22 161

ANNEXURES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

ANNEXURE 1F

STATEMENT OF UNCONDITIONAL GRANTS AND TRANSFERS TO MUNICIPALITIES

NAME OF MUNICIPALITY	GRANT ALLOCATION				TRANSFER		SPENT			2006/07
	Amount	Roll overs	Adjustments	Total Available	Actual Transfer	% of Available funds Transferred	Amount received by Municipality	Amount spent by Municipality	% of Available Funds spent by Municipality	Total Available
	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000	%	R'000
Regional Service Council Levies: Tshwane Metropolitan Municipality	63	-	1	64	64	100,0%	-	-	-	193
Total	63	-	1	64	64	100%	-	-	-	193

ANNEXURES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

ANNEXURE 1G

STATEMENT OF TRANSFERS TO DEPARTMENTAL AGENCIES AND ACCOUNTS

DEPARTMENTS/ AGENCY/ ACCOUNT	TRANSFER ALLOCATION				TRANSFER		2005/06
	Adjusted Appropriation Act	Rollovers	Adjustments	Total Available	Actual Transfer	% of Available Funds Transferred	Final Appropriation Act
	R'000	R'000	R'000	R'000	R'000	%	R'000
Technology Planning and Diffusion	72 558	-	(51 754)	20 804	19 300	92,8%	6 470
National Public Assets	43 000	-	-	43 000	43 000	100,0%	43 000
Indigenous Knowledge Systems	-	-	2 500	2 500	2 500	100,0%	-
Human Sciences Research Council	119 873	-	1 600	121 473	121 473	100,0%	104 293
Technology for Poverty Alleviation	-	-	6 151	6 151	6 151	100,0%	1 479
Technology for Sustainable Livelihoods	-	-	-	-	-	-	1 350
Learnerships	3 703	-	(3 703)	-	-	-	-
Global Science	3 893	-	717	4 610	4 610	100,0%	6 200
Africa Institute of South Africa	24 954	-	-	24 954	24 954	100,0%	18 968
Natural Resources	-	-	-	-	-	-	650
Advanced Manufacturing Technology Strategy	51 800	-	(51 800)	-	-	-	-
Innovation Fund	128 193	-	-	128 193	128 193	100,0%	-
South African National Energy Research Institute	40 000	-	(40 000)	-	-	-	-
South African Aids Vaccine Initiative	15 000	-	(15 000)	-	-	-	20 000
National Research Foundation	586 671	-	10 000	596 671	596 671	100,0%	516 881
Science and Youth	-	-	2 500	2 500	2 500	100,0%	-
Institutional Support	-	-	100	100	100	100,0%	1 000
Centres of Excellence	-	-	-	-	-	-	20 000
Science Themes	28 957	-	15 739	44 696	44 696	100,0%	14 639
Human Resource Development	50 000	-	5 000	55 000	55 000	100,0%	12 600
Frontier Science and Technology	13 272	-	5 000	18 272	18 272	100,0%	21 970
Equipment Placement	-	-	-	-	-	-	11 000
Square Kilometre Array	-	-	8 000	8 000	8 000	100,0%	8 000
Donations and Gifts	356	-	(356)	-	-	-	694
Information and Communication Technology	-	-	13 000	13 000	13 000	100,0%	-
Leveraging Services Strategy	3 000	-	(1 261)	1 739	1 739	100,0%	-
Frontier Science and Technology - Capital	-	-	20 000	20 000	20 000	100,0%	-
Research and Development Infrastructure	50 000	-	-	50 000	50 000	100,0%	-
South African National Research Network	22 000	-	(22 000)	-	-	-	-
Total	1 257 230	-	(95 567)	1 161 663	1 160 159		809 194

ANNEXURES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

ANNEXURE 1H

STATEMENT OF TRANSFERS TO UNIVERSITIES AND TECHNIKONS

UNIVERSITY/TECHNIKON	TRANSFER ALLOCATION				TRANSFER			2005/06
	Adjusted Appropriation Act	Rollovers	Adjustments	Total Available	Actual Transfer	Amount not Transferred	% of Available Funds Transferred	Final Appropriation Act
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000
North-West University	-	-	738	738	738	-	100,0%	13
Tshwane University of Technology	-	-	70	70	70	-	100,0%	50
University of KwaZulu-Natal	-	-	667	667	667	-	100,0%	757
University of Pretoria	-	-	5 483	5 483	5 483	-	100,0%	2 369
University of Free State	-	-	275	275	275	-	100,0%	100
University of Cape Town	-	-	8 224	8 224	8 224	-	100,0%	1 945
University of Fort Hare	-	-	198	198	198	-	100,0%	100
University of Stellenbosch	12 667	-	11 521	24 188	24 188	-	100,0%	26 400
University of Venda	-	-	250	250	250	-	100,0%	200
University of Western Cape	-	-	190	190	190	-	100,0%	12
University of Witwatersrand	-	-	4 933	4 933	4 933	-	100,0%	228
University of Zululand	-	-	274	274	274	-	100,0%	-
University of Limpopo	-	-	348	348	348	-	100,0%	100
University of Johannesburg	-	-	134	134	134	-	100,0%	
Total	12 667	-	33 305	45 972	45 972	-		32 274

ANNEXURES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

ANNEXURE II

STATEMENT OF TRANSFERS/SUBSIDIES TO PUBLIC CORPORATIONS AND PRIVATE ENTERPRISES

NAME OF PUBLIC CORPORATION/PRIVATE ENTERPRISE	TRANSFER ALLOCATION				EXPENDITURE				2006/07
	Adjusted Appropriation Act	Roll overs	Adjustments	Total Available	Actual Transfer	% of Available funds Transferred	Capital	Current	Appropriation Act
	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000	R'000
Private Enterprises									
Council for Scientific and Industrial Research	505 798	-	223 798	729 596	729 596	100,0%	-	729 596	587 014
Council for Mineral Technology	-	-	11 123	11 123	11 123	100,0%	-	11 123	9 949
Donations and Gifts	4	-	(4)	-	-	-	-	-	18
TOTAL	505 802	-	234 917	740 719	740 719		-	740 719	596 981

ANNEXURE I K

STATEMENT OF TRANSFERS TO NON-PROFIT INSTITUTIONS

NON-PROFIT INSTITUTIONS	TRANSFER ALLOCATION				EXPENDITURE		2005/06
	Adjusted Appropriation Act	Rollovers	Adjustments	Total Available	Actual Transfer	% of Available Transferred	Final Appropriation Act
	R'000	R'000	R'000	R'000	R'000	%	R'000
Transfers							
Academy of Science of SA	153	-	-	153	153	100,0%	-
Africa Analysis for Policy Analysis	197	-	-	197	197	100,0%	-
Africa Genome Education Institute	-	-	-	-	-	-	300
Amatola Water Board	-	-	-	-	-	-	8 815
Asande Projects	431	-	-	431	431	100,0%	-
Biopad Regional Innovation Centre Trust	64 300	-	(30 000)	34 300	34 300	100,0%	60 050
Black Science, Technology and Engineering Professionals	-	-	-	-	-	-	50
Boitjhorisong Science Resource Centre	-	-	-	-	-	-	100
Bokamoso Science and Technology Education Centre	263	-	-	263	263	100,0%	100
Cape Biotech Trust	64 300	-	(30 000)	34 300	34 300	100,0%	19 500
Central Energy Fund	-	-	-	-	-	-	21 900
City of Johannesburg	5 500	-	-	5 500	5 500	100,0%	-

ANNEXURES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

NON-PROFIT INSTITUTIONS	TRANSFER ALLOCATION				EXPENDITURE		2005/06
	Adjusted Appropriation Act	Rollovers	Adjustments	Total Available	Actual Transfer	% of Available Transferred	Final Appropriation Act
	R'000	R'000	R'000	R'000	R'000	%	R'000
Companies and Intellectual Property Registration Office	3 500	-	-	3 500	3 500	100,0%	-
Council for Geo Science	2 088	-	-	2 088	2 088	100,0%	5 075
Council for Mineral Technology	-	-	-	-	-	-	216
Council for Science and Industrial Research	-	-	-	-	-	-	3 934
Da Vinci Research Institute	-	-	-	-	-	-	2 280
Department of Housing and Local Government (N.Cape)	-	-	-	-	-	-	2 000
East Coast Biotechnology Regional Innovation Centre Trust	500	-	-	500	500	100,0%	39 500
Econ Analysis	66	-	-	66	66	100,0%	-
Eskom Expo for Young Scientists	417	-	-	417	417	100,0%	220
Gateway Discovery Centre Trust	85	-	-	85	85	100,0%	200
GISSA Conferences	-	-	-	-	-	-	130
Global Conferences Africa	-	-	-	-	-	-	500
Global Research Alliance Management Services	122	-	-	122	122	100,0%	-
GODISA Trust	-	-	-	-	-	-	24 000
Grahamstown Foundation	242	-	-	242	242	100,0%	220
Indigenous Knowledge Systems of SA Trust	-	-	-	-	-	-	2 000
Innovation Trust	162	-	-	162	162	100,0%	101 597
Interactive Science Foundation MTN Science Centre	-	-	-	-	-	-	40
International Centre for Genetic Engineering and Biotechnology	10 000	-	-	10 000	10 000	100,0%	-
International Square Kilometer Array Project Office	236	-	-	236	236	100,0%	-
ISSCT Conference	500	-	-	500	500	100,0%	-
Ithemba Labs	750	-	-	750	750	100,0%	45
KPMG	71	-	-	71	71	100,0%	-
Lifelab	64 300	-	(30 000)	34 300	34 300	100,0%	-
Limpopo Province Education Development Trust	330	-	(30)	300	275	91,7%	-
Mamelodi Resources	-	-	-	-	-	-	770
Medical Research Council	22 790	-	-	22 790	22 790	100,0%	-
Meeting of Minds	-	-	-	-	-	-	1 600
MTN Science Centre	260	-	-	260	260	100,0%	100
National Bioinformatics Network Trust	16 500	-	-	16 500	16 500	100,0%	14 977

ANNEXURES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

NON-PROFIT INSTITUTIONS	TRANSFER ALLOCATION				EXPENDITURE		2005/06
	Adjusted Appropriation Act	Rollovers	Adjustments	Total Available	Actual Transfer	% of Available Transferred	Final Appropriation Act
	R'000	R'000	R'000	R'000	R'000	%	R'000
National Science and Technology Forum	-	-	-	-	-	-	100
Nuclear Energy Council of South Africa	18 450	-	-	18 450	18 450	100,0%	-
Old Mutual MTN Science Centre	-	-	-	-	-	-	15
Old Mutual Properties	200	-	-	200	200	100,0%	-
Partners in Development	486	-	-	486	486	100,0%	-
People Learning and Training online	-	-	-	-	-	-	200
Phumani Paper	-	-	-	-	-	-	750
Plant Biotechnology Regional Innovation Centre	-	-	-	-	-	-	19 998
Plantbio Trust	55 500	-	(30 000)	25 500	25 500	100,0%	-
Rocalistep (Pty) Ltd	94	-	-	94	94	100,0%	-
SA Agency for Science and Technology Advancement	13 370	-	-	13 370	13 370	100,0%	14 400
Salamax 320	-	-	-	-	-	-	150
Satellite Mapping Agency	175	-	-	175	175	100,0%	-
Sci-Bono Discovery Centre	1 754	-	-	1 754	1 754	100,0%	100
Seda Technology Programme	12 000	-	-	12 000	12 000	100,0%	-
South African Academy of Engineering	12	-	-	12	12	100,0%	24
South African Astronomical Observatory	-	-	-	-	-	-	66
South African Biodiversity Institute	2 700	-	-	2 700	2 700	100,0%	-
South African Chemical Institute	118	-	-	118	118	100,0%	108
South African Environmental Observatory Network	60	-	-	60	60	100,0%	-
South African Institute for Aquatic Biodiversity	-	-	-	-	-	-	67
South African Institute of Physics	667	-	-	667	667	100,0%	514
South African Mathematics Foundation	2 639	-	-	2 639	2 639	100,0%	1 396
South African National Biodiversity Institute	-	-	-	-	-	-	200
South African National Energy Research Institute	40 000	-	-	40 000	40 000	100,0%	-
Southern African Association for Research in Mathematics, Science and Technology Education	-	-	-	-	-	-	18
Southern African Research and Innovation Management Association	520	-	-	520	520	100,0%	-
Standards South Africa	-	-	-	-	-	-	2 936
Sunspace	10 000	-	-	10 000	10 000	100,0%	-
Technology Top 100	2 060	-	-	2 060	2 060	100,0%	-

ANNEXURES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

NON-PROFIT INSTITUTIONS	TRANSFER ALLOCATION				EXPENDITURE		2005/06
	Adjusted Appropriation Act	Rollovers	Adjustments	Total Available	Actual Transfer	% of Available Transferred	Final Appropriation Act
	R'000	R'000	R'000	R'000	R'000	%	R'000
Telkom SA Ltd	50	-	-	50	50	100,0%	-
The Science Centre	-	-	-	-	-	-	100
The South African Nuclear Energy Corporation	-	-	-	-	-	-	26 706
Thukuka Education Upliftment Fund	4 902	-	-	4 902	4 902	100,0%	4 685
Tshumisano Trust	64 509	-	(27 000)	37 509	37 509	100,0%	39 266
Unizul Science Centre	-	-	-	-	-	-	100
UWESCO Investments	-	-	-	-	-	-	98
Water Research Commission	600	-	-	600	600	100,0%	600
Wits Commercial Enterprise	616	-	-	616	616	100,0%	-
Wits Health Consortium	-	-	-	-	-	-	500
	489 545	-	(147 030)	342 515	342 490		423 316
Subsidies							
Academy of Science of SA	3 000	-	-	3 000	3 000	100,0%	2 500
	3 000	-	-	3 000	3 000		2 500
TOTAL	492 545	-	(147 030)	345 515	345 490	-	425 816

ANNEXURE II

STATEMENT OF TRANSFERS TO HOUSEHOLDS

HOUSEHOLD	TRANSFER ALLOCATION				EXPENDITURE		2005/06
	Adjusted Appropriation Act	Rollovers	Adjustments	Total Available	Actual Transfer	% of Available Transferred	Final Appropriation Act
	R'000	R'000	R'000	R'000	R'000	%	R'000
Telkom South Africa	-	-	-	-	-	-	250
Institutional Support	-	-	217	217	200	92,2%	-
Gifts and Donations	244	-	544	788	784	99,5%	383
Total	244	-	761	1,005	984		633

ANNEXURES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

ANNEXURE 10

STATEMENT OF GIFTS, DONATIONS AND SPONSORSHIPS MADE AND REMISSIONS, REFUNDS AND PAYMENTS MADE AS AN ACT OF GRACE FOR THE YEAR ENDED 31 MARCH 2007

NATURE OF GIFT, DONATION OR SPONSORSHIP (Group major categories, but list material items including name of organisation)	2006/07	2005/06
	R'000	R'000
Paid in cash		
South African Women in Science Awards	200	200
Corporate and promotional gifts*	785	890
TOTAL	985	1 090

Gifts/promotional items were presented to foreign and local dignitaries, guest speakers at departmental events and to the general public during science and technology events. It is, however, not practical to list all recipients individually.

ANNEXURE 3A

STATEMENT OF FINANCIAL GUARANTEES ISSUED AS AT 31 MARCH 2007 – LOCAL

Guarantor institution	Guarantee in respect of	Original guaranteed capital amount	Opening Balance 01/04/2006	Guarantee drawdowns during the year	Guarantee repayments/cancelled/reduced/released during the year	Currency Revaluations	Closing Balance 31/03/2007	Guaranteed interest outstanding 31/03/2007	Realised losses not recoverable, i.e. claims paid out
		R'000	R'000	R'000	R'000	R'000	R'000	R'000	R'000
	Housing								
ABSA Bank		300	213	-	116	-	97	-	-
Standard Bank		124	83	-	71	-	12	-	-
First National Bank		126	115	-	87	-	28	-	-
Nedbank		65	111	-	44	-	67	-	-
VSB Mutual Bank		19	19	-	-	-	19	-	-
Total		634	541	-	318	-	223	-	-

ANNEXURES TO THE ANNUAL FINANCIAL STATEMENTS

for the year ended 31 March 2007

ANNEXURE 4

INTERGOVERNMENT RECEIVABLES

GOVERNMENT ENTITY	Confirmed balance outstanding		Unconfirmed balance outstanding		Total	
	31/03/2007 R'000	31/03/2006 R'000	31/03/2007 R'000	31/03/2006 R'000	31/03/2007 R'000	31/03/2006 R'000
DEPARTMENT						
Department of Health	-	-	18	18	18	18
Department of Arts and Culture	-	-	26	26	26	26
South African Police Service	-	-	-	1	-	1
Gauteng Provincial Government (Shared Services)	-	-	24	-	24	-
Statistics South Africa	-	-	12	-	12	-
Department of Correctional Services	-	-	5	-	5	-
Gauteng Department of Social Development	-	-	8	-	8	-
Department of Agriculture	-	-	3	-	3	-
North-West Education Department	-	-	1	-	1	-
			97	45	97	45
Other Government Entities						
National Research Foundation	-	-	149	149	149	149
	-	-	149	149	149	149
TOTAL	-	-	246	194	246	194

Include all amounts owing by National and Provincial Departments, as well as all Public Entities, Constitutional Institutions and Trading Entities.

ANNEXURES TO THE ANNUAL FINANCIAL STATEMENTS

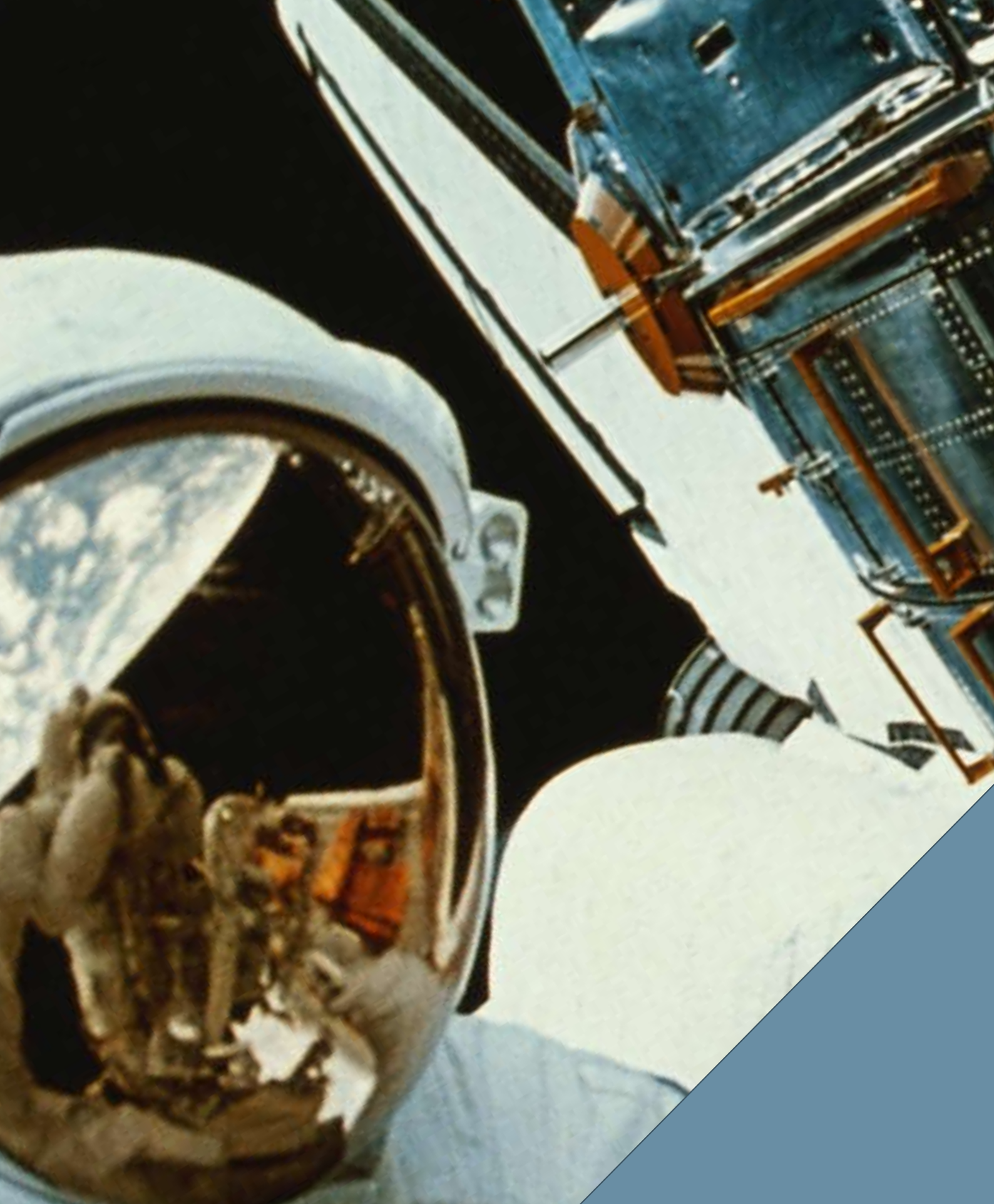
for the year ended 31 March 2007

ANNEXURE 5

INTERGOVERNMENT PAYABLES

GOVERNMENT ENTITY	Confirmed balance outstanding		Unconfirmed balance outstanding		Total	
	31/03/2007 R'000	31/03/2006 R'000	31/03/2007 R'000	31/03/2006 R'000	31/03/2007 R'000	31/03/2006 R'000
DEPARTMENTS						
Current						
South African Police Service	-	-	-	74	-	74
Department of Health	18	-	-	-	18	-
Department of Transport	-	2	-	-	-	2
Department of Foreign Affairs	-	1 323	-	-	-	1 323
Gauteng Provincial Government	10	-	-	-	10	-
Government Printing Works	92	-	-	-	92	-
Subtotal	120	1 325	-	74	120	1 399
OTHER GOVERNMENT ENTITY						
Current						
National Research Foundation	-	45	-	-	-	45
Subtotal	-	45	-	-	-	45

Include all amounts owing to National and Provincial Departments, as well as all Public Entities, Constitutional Institutions and Trading Entities.





HUMAN RESOURCES

OVERSIGHT REPORT

I. Human Resource Management

Public Service Regulations

The statistics and information published in this part of the annual report are required in terms of Chapter I, Part III J.3 of the Public Service Regulations, 2002 and have been prescribed by the Minister for the Public Service and Administration for all departments within the public service.

The statistical tables provide high-level information on key human resource issues. The information aims to empower legislatures, the media, the public and other key stakeholders to monitor whether departments are:

- Exercising the powers granted under Public Service and Public Finance legislation in a responsible manner; and
- Achieving national transformation priorities established by the Cabinet, for example, affirmative action.

Annual reports are produced after the end of the financial year. This is aimed at strengthening the accountability of departments to key stakeholders.

The tables in this report are revised on a regular basis by the Department of Public Service and Administration (DPSA). If you wish to see additional information included in this report, please send suggestions (with a clear motivation) to:

The Director-General
Department of Public Service and Administration
Attention: Public Service Information Unit
PO Box 916, Pretoria, 0001
psiu@dpsa.gov.za
Fax: (012) 314 7020

To ensure that enough time is available to evaluate and incorporate your suggestions, please ensure that all submissions are submitted on or before 31 August.

For a detailed description and explanation of the terminology used in this section of the report, please consult the publication from DPSA entitled "A guide to understanding the oversight report of departmental annual reports". A copy of this guide is available from all departments or can be accessed from the DPSA website (www.dpsa.gov.za).



TABLE 1.1 – Personnel costs by programme, 2006/07

Programme	Total Expenditure	Personnel Expenditure	Training Expenditure	Professional and Special Services	Personnel cost as a percent of total expenditure	Average personnel cost per employee
	(R'000)	(R'000)	(R'000)	(R'000)		(R'000)
Corporate Services	217 244	33 835	543	7 664	15,57%	245,18
Science and Technology Expert Services	48 953	21 707	167	5 478	44,34%	289,43
International Cooperation and Resources	124 304	17 401	130	8 031	14,00%	355,12
Frontier Science and Technology	1 662 636	4 049	90	780	0,24%	337,42
Government Sector Programmes and Coordination	559 862	6 751	32	3 011	1,21%	397,12
Total	2 612 999	83 743	962	24 964	3,20%	287,78

TABLE 1.2 – Personnel costs by salary bands, 2006/07

Salary bands	Personnel Expenditure	% of total personnel cost	Average personnel cost per employee
	(R'000)	(R'000)	(R'000)
Lower skilled (Levels 1-2)	0	0,00%	0
Skilled (Levels 3-5)	994	1,19%	83
Highly skilled production (Levels 6-8)	10 039	11,99%	108
Highly skilled supervision (Levels 9-12)	32 199	38,45%	275
Senior management (Levels 13-16)	40 511	48,38%	587
Total	83 743	100,00%	361

TABLE 1.3 – Salaries, overtime, homeowners allowance and medical assistance by programme, 2006/07

Programme	Salaries		Overtime		Homeowners' Allowance		Medical Assistance	
	Amount	Salaries as a % of personnel cost	Amount	Overtime as a % of personnel cost	Amount	HOA as a % of personnel cost	Amount	Medical Assistance as a % of personnel cost
	(R'000)		(R'000)		(R'000)		(R'000)	
Corporate Services	31 527	93,18%	1 030	3,04%	384	1,13%	894	2,64%
Science and Technology Expert Services	21 030	96,88%	65	0,30%	235	1,08%	377	1,74%
International Cooperation and Resources	16 551	95,12%	135	0,78%	238	1,37%	477	2,74%
Frontier Science and Technology	3 896	96,22%	0	0,00%	34	0,84%	119	2,94%
Government Sector Programmes and Coordination	6 455	95,62%	27	0,40%	64	0,95%	205	3,04%
Total	79 459		1 257		955		2 072	

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TABLE 1.4 – Salaries, overtime, homeowners allowance and medical assistance by salary bands, 2006/07

Programme	Salaries		Overtime		Homeowners' Allowance		Medical Assistance	
	Amount	Salaries as a % of personnel cost	Amount	Overtime as a % of personnel cost	Amount	HOA as a % of personnel cost	Amount	Medical Assistance as a % of personnel cost
	(R'000)		(R'000)		(R'000)		(R'000)	
Lower skilled (Levels 1-2)	0	0,00%	0	0,00%	0	0,00%	0	0,00%
Skilled (Levels 3-5)	994	1,19%	64	0,08%	190	0,23%	189	0,23%
Highly skilled production (Levels 6-8)	10 039	11,99%	458	0,55%	302	0,36%	728	0,87%
Highly skilled supervision (Levels 9-12)	32 199	38,45%	717	0,86%	463	0,55%	1 155	1,38%
Senior management (Levels 13-16)	40 511	48,38%	0	0	0	0,00%	0	0
Total	83 743	100,00%	1 239	1,48%	955	1,14%	2 072	2,47%

2. Employment and vacancies

The vacancy rate reflects the percentage of posts that are not filled.

TABLE 2.1 – Employment and vacancies by programme, 31 March 2007

Programme	Number of posts	Number of posts filled	Vacancy Rate	Number of posts filled additional to the establishment
Corporate Services	159	138	13,21%	-
Science and Technology Expert Services	92	75	13,04%	-
International Cooperation and Resources	60	49	18,33%	-
Frontier Science and Technology	16	12	25,00%	-
Government Sector Programmes and Coordination	22	17	22,73%	-
Total	349	291	15,19%	-

TABLE 2.2 – Employment and vacancies by salary bands, 31 March 2007

Salary band	Number of posts	Number of posts filled	Vacancy Rate	Number of posts filled additional to the establishment
Lower skilled (Levels 1-2)	0	0	0,00%	-
Skilled (Levels 3-5)	13	12	3,44%	-
Highly skilled production (Levels 6-8)	94	93	26,65%	-
Highly skilled supervision (Levels 9-12)	157	117	33,52%	-
Senior management (Levels 13-16)	85	69	19,77%	-
Total	349	291		



3. Job evaluation

TABLE 3.1 – Job Evaluation, 1 April 2005 to 31 March 2007

Salary band	Number of posts	Number of Jobs Evaluated	% of posts evaluated by salary bands	Posts Upgraded		Posts downgraded	
				Number	% of posts evaluated	Number	% of posts evaluated
Lower skilled (Levels 1-2)	0	0	0,00%	0	0,00%	0	-
Skilled (Levels 3-5)	13	5	38,46%	3	0,00%	0	-
Highly skilled production (Levels 6-8)	94	18	19,15%	12	66,67%	0	-
Highly skilled supervision (Levels 9-12)	157	26	16,56%	4	15,38%	0	-
Senior management service band A	59	13	22,03%	0	0,00%	0	-
Senior management service band B	19	4	21,05%	0	0,00%	0	-
Senior management service band C	6	1	16,67%	0	0,00%	0	-
Senior management service band D	1	0	0,00%	0	0,00%	0	-
Total	349	67	19,20%	19	28,36%	0	-

TABLE 3.2 – Profile of employees whose salary positions were upgraded due to their posts being upgraded, 1 April 2006 to 31 March 2007

Beneficiaries	African	Asian	Coloured	White	Total
Female	11	1	2	2	16
Male	7	0	1	2	10
Total	18	1	3	4	26
Employees with a disability					

4. Employment changes

TABLE 4.1 – Annual turnover rates by salary band for the period 1 April 2005 to 31 March 2006

Salary Band	Number of employees per band as on 1 April 2005	Appointments and transfers into the Department	Terminations and transfers out of the Department	Turnover rate
Lower skilled (Levels 1-2)	0	0	0	0,00%
Skilled (Levels 3-5)	22	3	1	4,55%
Highly skilled production (Levels 6-8)	53	44	21	39,62%
Highly skilled supervision (Levels 9-12)	100	43	13	13,00%
Senior management service band A	39	9	6	15,38%
Senior management service band B	13	3	1	7,69%
Senior management service band C	5	1	2	40,00%
Senior management service band D		1	1	0,00%
Total	232	104	45	19,40%

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TABLE 4.2 – Reasons why staff are leaving the Department

Termination Type	Number	% of total
Death	3	7,14%
Resignation	16	38,10%
Expiry of contract	14	33,33%
Dismissal – operational changes	0	0,00%
Dismissal – misconduct	0	0,00%
Dismissal – inefficiency	0	0,00%
Discharged due to ill-health	0	0,00%
Retirement	0	0,00%
Transfers to other public service departments	12	28,57%
Other	0	0,00%
Total	42	
Total number of employees who left as a % of the total employment		18,10%

TABLE 4.3 – Promotions by salary band

Salary Band	Employees 1 April 2005	Promotions to another salary level	Salary bands promotions as a % of employees by salary level	Progressions to another notch within a salary level	Notch progressions as a % of employees by salary band
Lower skilled (Levels 1-2)	0	0	0,00%	0	0,00%
Skilled (Levels 3-5)	26	0	0,00%	11	42,31%
Highly skilled production (Levels 6-8)	53	9	16,98%	34	64,15%
Highly skilled supervision (Levels 9-12)	100	22	22,00%	43	43,00%
Senior management (Levels 13-16)	53	11	20,75%	19	35,85%
Total	232	42	18,10%	107	46,12%

5. Employment equity

The tables in this section are based on the formats prescribed by the Employment Equity Act, 55 of 1998.

TABLE 5.1 Total number of employees (including employees with disabilities) in each of the following occupational categories as on 31 March 2007

Occupational categories (SASCO)	Male				Female			
	African	Coloured	Indian	White	African	Coloured	Indian	White
Management (Levels 13 – 16)	33	2	7	4	13	2	4	4
Middle management (Levels 9 -12)	33	3	2	8	55	4	3	9
Administrative (Levels 6 – 8)	19	2	1	1	56	6	0	8
Clerical (Levels 3 – 5)	6	0	0	0	6	0	0	0
Elementary occupations (Levels 1 – 2)	0	0	0	0	0	0	0	0
Total	91	7	10	13	130	12	7	21
Employees with disabilities	2			1	1			



TABLE 5.2 – Total number of employees (including employees with disabilities) in each of the following occupational bands as on 31 March 2007

Occupational bands	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top management (Levels 15 – 16)	3	0	1	0	0	1	1	0	6
Senior management (Levels 13 – 14)	30	2	6	4	13	1	3	4	63
Professionally qualified and experienced specialists and mid-management (Levels 9 – 12)	33	3	2	8	55	4	3	9	117
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents (Levels 6 – 8)	19	2	1	1	56	6	0	8	93
Semi-skilled and discretionary decision making (Levels 3 – 5)	6	0	0	0	6	0	0	0	12
Unskilled and defined decision making (Levels 1 – 2)	0	0	0	0	0	0	0	0	0
Total	91	7	10	13	130	12	7	21	291

TABLE 5.3 – Recruitment for the period 1 April 2006 to 31 March 2007

Occupational bands	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top management (Levels 15 – 16)	1	0	0	0	0	0	0	0	1
Senior management (Levels 13 – 14)	7	0	1	0	2	0	1	1	12
Professionally qualified and experienced specialists and mid-management (Levels 9 – 12)	16	2	0	2	18	2	2	2	44
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents (Levels 6 – 8)	13	1	1	1	25	2	1	0	44
Semi-skilled and discretionary decision making (Levels 3 – 5)	2	0	0	0	1	0	0	0	3
Unskilled and defined decision making (Levels 1 – 2)	0	0	0	0	0	0	0	0	0
Total	39	3	2	3	46	4	4	3	104

TABLE 5.4 – Promotions for the period 1 April 2006 to 31 March 2007

Occupational bands	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top management (Levels 15 – 16)	1	0	0	0	0	0	1	0	2
Senior management (Levels 13 – 14)	5	0	1	1	1	1	0	0	9
Professionally qualified and experienced specialists and mid-management (Levels 9 – 12)	8	1	1	0	9	1	1	1	22
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents (Levels 6 – 8)	1	1	0	0	6	1	0	0	9
Semi-skilled and discretionary decision making (Levels 3 – 5)	0	0	0	0	0	0	0	0	0
Unskilled and defined decision making (Levels 1 – 2)	0	0	0	0	0	0	0	0	0
Total	15	2	2	1	16	3	2	1	42

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TABLE 5.5 – Terminations for the period 1 April 2006 to 31 March 2007

Occupational bands	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top management (Levels 15 – 16)	0	1	0	1	0	0	0	0	2
Senior management (Levels 13 – 14)	3	0	0	2	2	0	0	0	7
Professionally qualified and experienced specialists and mid-management (Levels 9 – 12)	3	1	0	0	6	2	0	1	13
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents (Levels 6 – 8)	5	0	0	0	17	0	0	0	22
Semi-skilled and discretionary decision making (Levels 3 – 5)	1	0	0	0	0	0	0	0	1
Unskilled and defined decision making (Levels 1 – 2)	0	0	0	0	0	0	0	0	0
Total	12	2	0	3	25	2	0	1	45
Employees with disabilities									

6. Performance rewards

TABLE 6.1 – Performance rewards by race, gender, and disability, 1 April 2006 to 31 March 2007

	Beneficiary Profile			Cost	
	Number of beneficiaries	Total number of employees in group	% of total within group	Cost	Average cost per employee (R'000)
African					
Male	34	89	38,20%	803	24
Female	61	129	47,29%	773	13
Asian					
Male	4	10	40,00%	153	38
Female	3	7	42,86%	92	31
Coloured					
Male	6	7	85,71%	186	31
Female	6	12	50,00%	75	13
White					
Male	10	12	83,33%	301	30
Female	12	21	57,14%	153	13
Employees with a disability	1	4	100,00%	4	4
Total	137	291	47,08%	2 540	19

TABLE 6.2 – Performance rewards by salary bands for personnel below Senior Management Service, 1 April 2005 to 31 March 2006

Salary Bands	Beneficiary Profile			Cost		
	Number of beneficiaries	Number of employees	% of total within salary bands	Total Cost (R'000)	Average cost per employee	Total cost as a % of the total personnel expenditure
Lower skilled (Levels 1-2)	3	3	100,00%	9,00	3,00	0,01%
Skilled (Levels 3-5)	18	21	85,71%	85,00	4,72	0,10%
Highly skilled production (Levels 6-8)	35	54	64,81%	284,00	8,11	0,34%
Highly skilled supervision (Levels 9-12)	51	100	51,00%	966,00	18,94	1,15%
Total	107	178	60,11%	1 344,00	12,56	1,60%



TABLE 6.3 – Performance related rewards (cash bonus), by salary band, for senior management service

Salary Band	Beneficiary Profile			Cost		
	Number of beneficiaries	Number of employees	% of total within band	Total Cost (R'000)	Average cost per employee	Total cost as a % of the total personnel expenditure
Band A	19	39	48,72%	592	31	0,71%
Band B	8	13	61,54%	328	41	0,39%
Band C	3	5	60,00%	202	67	0,24%
Band D	1	1	100,00%	74	74	0,09%
Total	31	58	53,45%	1 196	39	1,43%

7. Leave utilisation for the period 1 January 2005 to 31 March 2006

The Public Service Commission identified the need for careful monitoring of sick leave within the Public Service. The following tables provide an indication of the use of sick leave (Table 7.1) and disability leave (Table 7.2). In both cases, the estimated cost of the leave is also provided.

TABLE 7.1 – Sick leave, 1 April 2006 to 31 March 2007

Salary Band	Total days	% days with medical certification	Number of Employees using sick leave	% of total employees using sick leave	Average days per employee	Estimated Cost (R'000)
Lower skilled (Levels 1-2)	0	0,00%	0	0,00%	0,00	0
Skilled (Levels 3-5)	121	13,73%	16	75,00%	7,56	31
Highly skilled production (Levels 6-8)	248	28,15%	47	50,54%	5,28	100
Highly skilled supervision (Levels 9-12)	377	42,79%	58	49,57%	6,50	272
Senior management (Levels 13-16)	135	15,32%	28	40,58%	4,82	172
Total	881	20,00%	149	51,20%	5,91	575

TABLE 7.2 – Disability leave (temporary and permanent), 1 April 2006 to 31 March 2007

Salary Band	Total days taken	% days with medical certification	Number of Employees using disability leave	% of total employees using disability leave	Average days per employee	Estimated Cost (R'000)
Lower skilled (Levels 1-2)	0	0%	0	0,00%	0	0
Skilled (Levels 3-5)	13	100%	1	0,34%	13	3
Highly skilled production (Levels 6-8)	0	0%	0	0,00%	0	0
Highly skilled supervision (Levels 9-12)	3	100%	1	0,34%	3	2
Senior management (Levels 13-16)	0	0%	0	0,00%	0	0
Total	16	100%	2	0,34%	8	5

Table 7.3 summarises the utilisation of annual leave. The wage agreement concluded with trade unions in the PSCBC in 2000 requires management of annual leave to prevent high levels of accrued leave being paid at the time of termination of service.

TABLE 7.3 – Annual leave, 1 January 2006 to 31 December 2006

Salary Band	Total days	% days with medical certification	Number of Employees using disability leave
Lower skilled (Levels 1-2)	0	0,00	5
Skilled Levels 3-5)	184	18,40	24
Highly skilled production (Levels 6-8)	1 321	18,10	38
Highly skilled supervision (Levels 9-12)	1 835	16,68	76
Senior management (Levels 13-16)	1 066	15,23	46
Total	4 406	16,75	189

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TABLE 7.4 – Capped leave, 1 January 2005 to 31 March 2006

Salary Bands	Total days of capped leave taken	Average number of days taken per employee	Average capped leave per employee as at 31 March 2006
Lower skilled (Levels 1-2)	0	0,00	0,00
Skilled (Levels 3-5)	0	0,00	28,00
Highly skilled production (Levels 6-8)	0	0,00	25,31
Highly skilled supervision (Levels 9-12)	0	0,00	29,04
Senior management (Levels 13-16)	0	0,00	49,09
Total	0	0,00	33,37

TABLE 7.5 – Leave payouts for the period 1 April 2005 to 31 March 2006

The following table summarises payments made to employees as a result of leave that was not taken.

Reason	Total Amount (R'000)	Number of Employees	Average payment per employee (R'000)
Leave payout for 2005/06 due to non-utilisation of leave for the previous cycle	61	12	5,08
Capped leave payouts on termination of service for 2005/06	82 445,4	3	27 481,80
Current leave payout on termination of service for 2005/06	34	5	7
Total	82 540,4	20	27 493,88

TRAINING NEEDS IDENTIFIED 01 APRIL 2006 TO 31 MARCH 2007

Occupational Categories	Gender	No. employees as at 01/04/2006	Training needs identified at start of reporting period			
			Internship	Skills programmes & other short courses	Other forms of training	Total
Legislators, Senior Officials & Managers (Level 13-16)	Female	19	0	3	0	3
	Male	44	0	4	0	4
Professionals (Level 9-12)	Female	62	0	18	0	18
	Male	38	0	15	0	15
Technicians & Associate Professionals (Level 6-8)	Female	57	0	10	0	10
	Male	24	0	6	0	6
Clerks (Level 3-5)	Female	8	0	3	0	3
	Male	6	0	2	0	2
Elementary Occupations (Level 1-2)	Female	2	0	3	0	3
	Male	0	0	0	0	0
Total No. of Employees	Female	148	0	37	0	37
	Male	112	0	27	0	27
	TOTAL	260	0	64	0	64
Interns	Female	0	99	6	0	6
	Male	0	69	6	0	6
	TOTAL	0	168	12	0	12
GRAND TOTAL	Female	148	99	43	0	43
	Male	112	69	33	0	33
	GRAND TOTAL	260	168	76	0	76



TRAINING PROGRAMMES IDENTIFIED FOR INTERNS 2006/07

Course	NQF Level	Interns Identified
Report Writing	4	84
Presentation	4	76
Project Management	5	40
MS Excel	4	38
Time Management	4	75
Job Search, CV Compilation & Interview Skills Workshop	N/A	168
Speech Therapy	N/A	0
Open Source Workshop on Routers, CALC & Impress	N/A	0

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GLOSSARY OF TERMS

Aids	Acquired Immunodeficiency Syndrome	GIS	Geographic Information Systems
AFIS	Advanced Fire Information System	HDPE	High-density Polyethylene
AGA	Astronomy Geographic Advantage	HESS	High-Energy Stereoscopic System
AISA	Africa Institute of South Africa	HIV	Human Immunodeficiency Virus
AMI	Advanced Metals Initiative	HR	Human Resources
AMTS	Advanced Manufacturing Technology Strategy	IAMP	InterAcademy Medical Panel
AsgiSA	Accelerated and Shared Growth Initiative for South Africa	IAP	InterAcademy Panel
ASSAf	Academy of Science of South Africa	IAT	Institute for Advanced Tooling
AU	African Union	ICT	Information and Communication Technology
BIC	Biotechnology Innovation Centre	ICGEB	International Centre for Genetic Engineering and Biotechnology
CDCP	Centre for Disease Control and Prevention	ICS	International Council for Science
CESTII	Centre for Science, Technology and Innovation Indicators	IDR	Institute of Diagnostic Research
CFS	Child-Friendly Schools	IFCO	Innovation Fund Commercialisation Office
CHPC	Centre for High Performance Computing	IGTR	Indo-German Tool Room Programme
COSTIS	Consortium of Science, Technology and Innovation for the South	IIDMM	Institute of Infectious Diseases and Molecular Medicine
CSIR	Council for Scientific and Industrial Research	INRIA	Institut de Recherche en Informatique et en Automatique
CSTP	Committee for Scientific and Technological Policy	IP	Intellectual Property
CYFSD	Child, Youth, Family and Social Development	IPR	Intellectual Property Rights
D&G	Democracy and Governance	IST	Information Society Technologies
DME	Department of Minerals and Energy	JBC	Journal of Biological Chemistry
DoA	Department of Agriculture	JICA-SA	Japan International Cooperation Agency-South Africa
DoD	Department of Defence	JIPSA	SA-Japan Joint Initiative on Priority Skills Acquisition
DST	Department of Science and Technology	IKS	Indigenous Knowledge Systems
DTI	Department of Trade and Industry	KAT	Karoo Array Telescope
DWAF	Department of Water Affairs and Forestry	KEF	Knowledge Economy Forum
EAP	Employee Assistance Programme	KEPRI	Korea Electric Power Research Institute
EGDI	Employment, Growth and Development Initiative	KIST	Korea Institute of Science and Technology
EMPRO	European Microbicides Consortium	LCVU	Laser Centrum Vrije Universiteit
ERA	Emerging Research Area	LOGIS	Logistical Information System
ESSD	Education, Science and Skills Development	MRC	Medical Research Council
FET	Further Education and Training	MulticAM	Multi-spectral Imaging System
FP6	Sixth European Framework Programme	NACI	National Advisory Council on Innovation
EDCTP	European and Developing Countries Clinical Trials Partnership	NARS	National Agricultural Research System
ESASTAP	European South African Science and Technology Advancement Programme	NASAC	Network of African Science Academies
EU	European Union	NEP	National Equipment Programme
GDP	Gross Domestic Product	NEPAD	New Partnership for Africa's Development
		NEQI	National Education Quality Initiative
		NGO	Non-Governmental Organisation

GLOSSARY OF TERMS - CONTINUED

NHLS	National Health and Laboratory Services	SARCHI	South African Research Chairs Initiative
NHRS	National Health Research System	SARS	South African Revenue Services
NIKSO	National Indigenous Knowledge Systems Office	SciTES	Science and Technology Expert Services
NM4TB	New Medicines for Tuberculosis	SES	Socio-economic Surveys
NNEP	Nanotechnology Equipment Programme	S&T	Science and Technology
NRDS	National Research and Development Strategy	SET	Science, Engineering and Technology
NRF	National Research Foundation	SETI	Science, Engineering and Technology Institutions (SETI)
NSA	National Space Agency	SKA	Square Kilometre Array
NSDP	National Spatial Development Perspective	SMME	Small, Medium and Micro Enterprise
NSI	National System of Innovation	SPOT	Satellite Pour l'Observation de la Terre
NSW	National Science Week	STAs	Scientific and Technological Activities
NTI	National Tooling Initiative	STAF	Science and Technology Agreements Fund
OECD	Organization for Economic Cooperation and Development	TB	Tuberculosis
OVC	Care of Orphans And Vulnerable Children	TIA	Technological Innovation Agency
PAIPO	Pan African Intellectual Property Organisation	TIP	Technology and Innovation Policy Working Group
PAU	Policy Analysis Unit	TS	Technology Station
PBMR	Pebble Bed Modular Reactor	TWAS	Third World Academy of Science
PEPFAR	Presidential Emergency Programme for Aids Relief	UDL	Urban Dynamics Laboratory
PFMA	Public Finance Management Act	UK	United Kingdom
PGMs	Platinum Group Metals	UN	United Nations
PMU	Project Management Unit	UNESCO	United Nations Educational, Scientific and Cultural Organization
PUB	Public Understanding of Biotechnology	UoT	University of Technology
R&D	Research and Development	UoTs	Universities of Technology
RIMS	Research Information Management System	URED	Urban, Rural and Economic Development
RNE	Royal Netherlands Embassy	UN	United Nations
SAASTA	South African Agency for Science and Technology Advancement	USA	United States of America
SAASTE	South African Association of Science and Technology Educators	WAITRO	World Association for Industrial and Technical Research Organizations
SAAVI	South African Aids Vaccine Initiative	WIPO	World Intellectual Property Rights Organization
SABC	South African Broadcasting Corporation	YENEPAD	Young Entrepreneurs for the New Partnership for Africa's Development
SACNASP	South African National Scientific Professions	YISS	Youth into Science Strategy
SADC	Southern African Development Community		
SADET	South African Democracy Education Trust		
SAEON	South African Environmental Observation Network		
SAEOS	South African Earth Observation System		
SAHARA	Social Aspects of HIV/Aids Research Alliance		
SAMDI	South African Management Development Institute		
SANBIO	Southern African Network for Biosciences		
SANDF	South African National Defence Force		
SANERI	South African National Energy Research Institute		





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