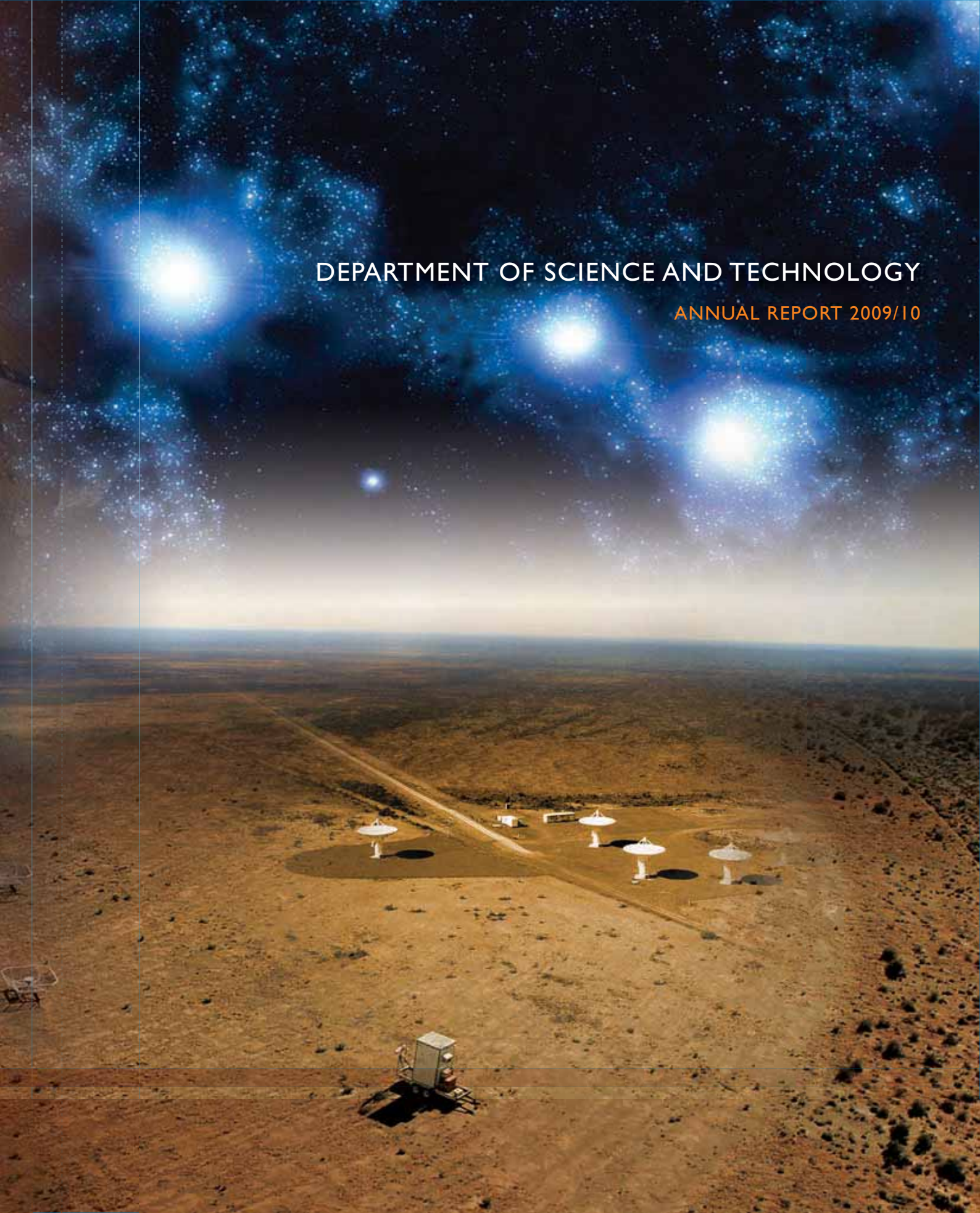


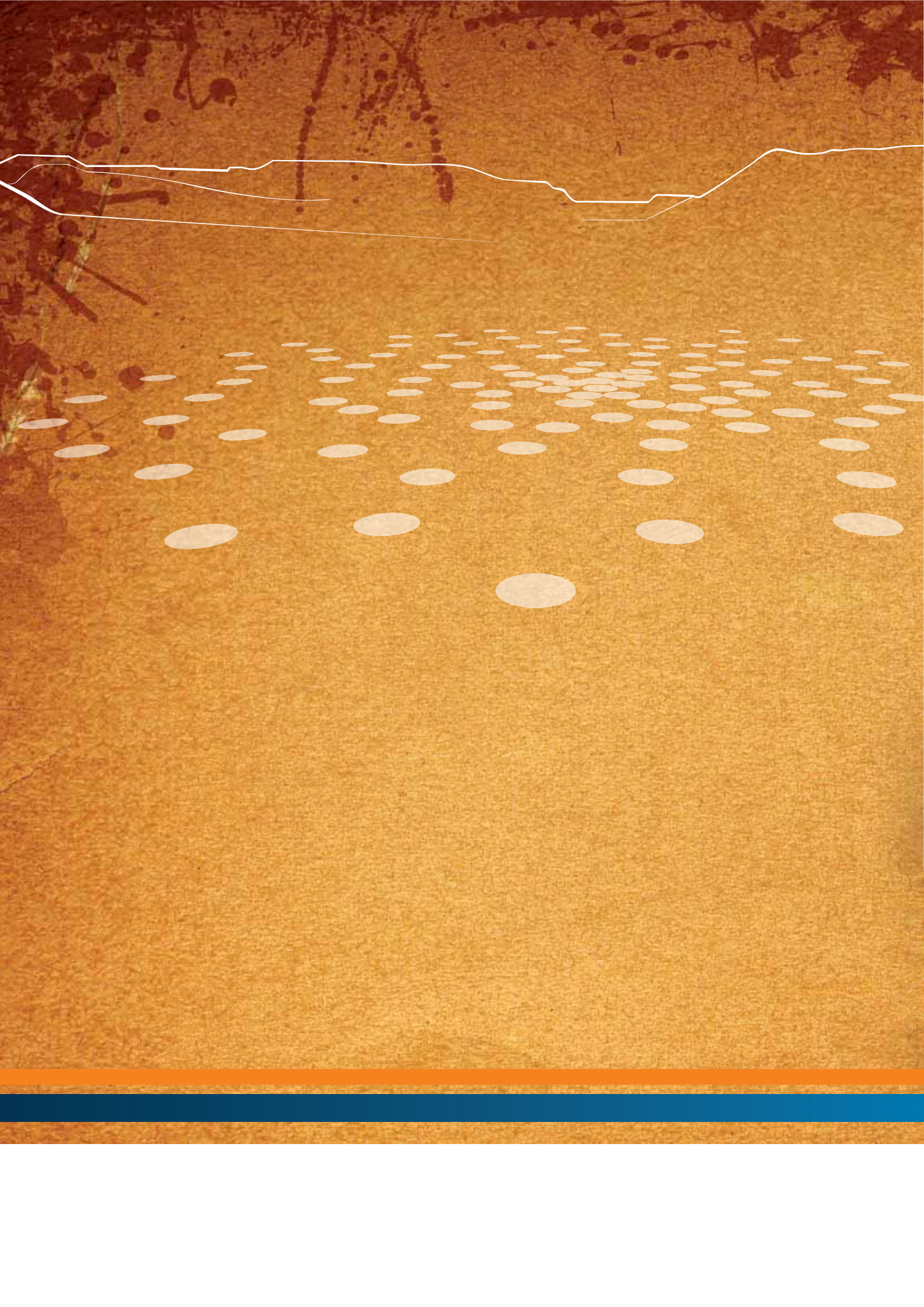
DEPARTMENT OF SCIENCE AND TECHNOLOGY

ANNUAL REPORT 2009/10



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.

ISBN: 978-0-621-39697-3

RP: 244/2010



List of abbreviations	2
Foreword	5
Preface	9
Introduction	13
Structure	16
PERFORMANCE OVERVIEW	19
OVERVIEW OF THE DST PROGRAMMES	23
Programme 1: Corporate Services and Governance	24
Programme 2: Research, Development and Innovation	25
Programme 3: International Cooperation and Resources	30
Programme 4: Human Capital and Knowledge Systems	35
Programme 5: Socio-Economic Partnerships	44
PUBLIC ENTITIES	51
ANNUAL FINANCIAL STATEMENTS	79
HUMAN RESOURCES	163
DST Corporate Information	178

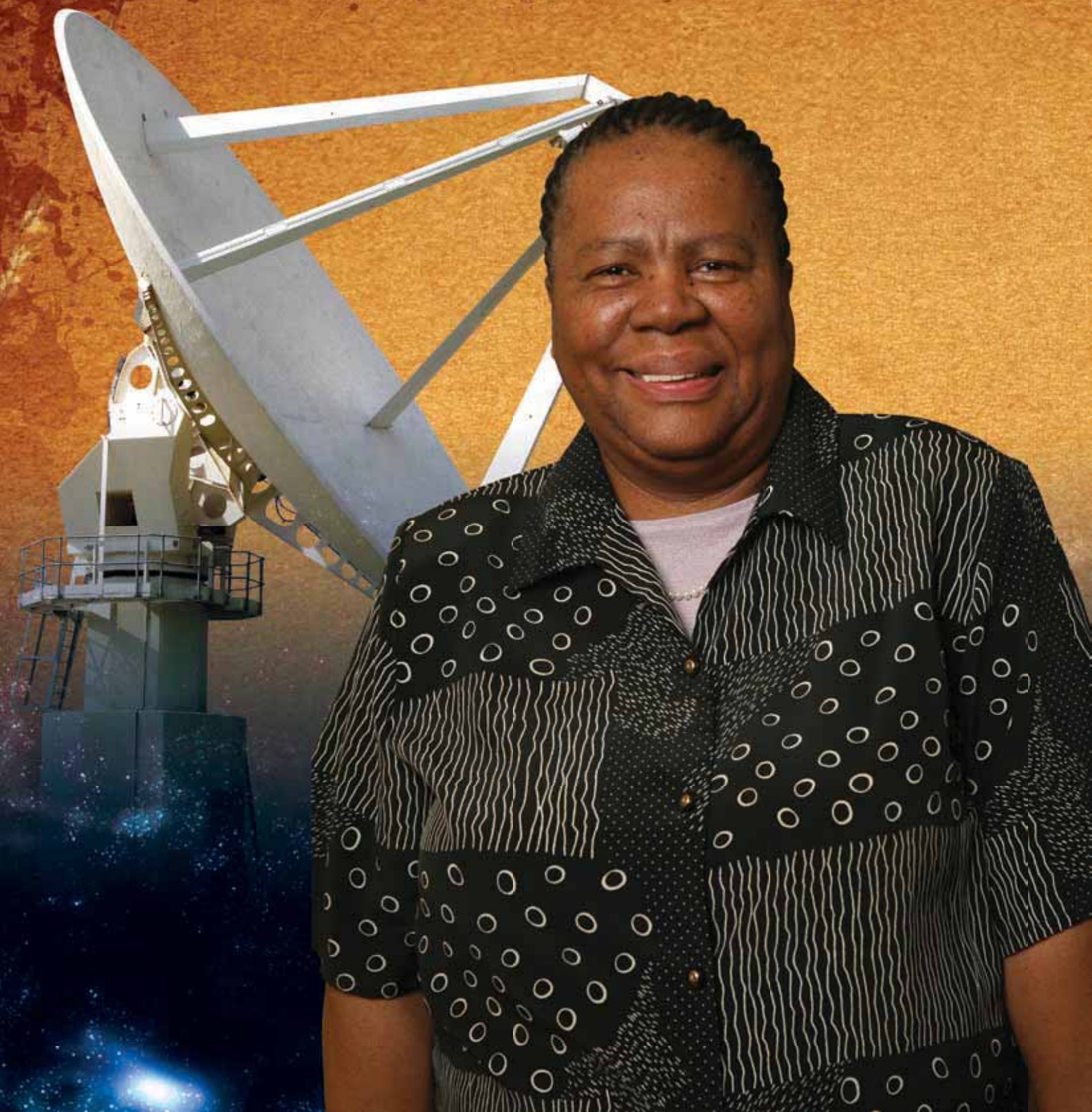
TABLE OF CONTENTS

LIST OF ABBREVIATIONS

ACCESS	Applied Centre for Climate and Earth Systems Science
ACEP	The African Coelacanth Ecosystem Programme
ACP	African, Caribbean and Pacific
AMI	Advanced Metals Initiative
AMTS	Advanced Manufacturing Technology Strategy
ASCLME	Agulhas and Somali Current Large Marine Ecosystems
ASTIACO	Agricultural Science, Technology and Innovation Activities Coordination Committee
BIKS	Bachelor of Indigenous Knowledge System
BRICs	Biotechnology Regional Innovation Centres
CASPER	Centre for Astronomy Signal Processing and Electronic Research
CHPC	Centre for High Performance Computing
CoC	centre of competence
CoE	centre of excellence
COST	Cooperation in Science and Technology
CSIR	Council for Scientific and Industrial Research
CUPP	Community-University Partnership Programme
DCA	Diamond Coast Abalone
DST	Department of Science and Technology
FP7	European Union Seventh Framework Programme
HartRAO	Hartebeesthoek Radio Astronomy Observatory
HCD	human capital development
HEI	higher education institution
HRTEM	High Resolution Transmission Electron Microscopy Centre
HSRC	Human Sciences Research Council
HySA	Hydrogen and Fuel Cell Technologies Research, Development and Innovation Strategy
IATs	Institutes of Advanced Tooling
IBSA	India-Brazil-South Africa partnership
ICT	information and communications technology
IK	indigenous knowledge
IKS	indigenous knowledge systems
IPDM	Integrated Planning and Development Modelling
IPR Act	Intellectual Property Rights from Publicly Funded Research and Development Act
IYA	International Year of Astronomy
KAT	Karoo Array Telescope
Necsa	Nuclear Energy Corporation of South Africa
NIC	nanotechnology innovation centre
NIKMAS	National IKS Management System
NIKSO	National Indigenous Knowledge Systems Office
NEPAD	New Partnership for Africa's Development
NRF	National Research Foundation
NRDS	National Research and Development Strategy

NRS	National Recordal System
NSI	National System of Innovation
NSW	National Science Week
R&D	research and development
RDI	research, development and innovation
RETECZA	Resource-Driven Technology Concept Centre
ROV	remotely-operated vehicle
S&T	science and technology
SADC	Southern African Development Community
SANAP	South African National Antarctic Programme
SANReN	South African National Research Network
SANSA	South African National Space Agency
SAQA	South African Qualifications Authority
SARChI	South African Research Chairs Initiative
SASRIF	South African Strategic Research Infrastructure Forum
SA-VLDB	South African Very Large Database
SBS	Sector Budget Report
SET	science, engineering and technology
SHARP	South African HIV/Aids Research and Innovation Platform
SKA	Square Kilometre Array
SMEs	small and medium enterprises
SMMEs	small, medium and micro enterprises
SOE	state-owned enterprise
STA	scientific and technological activity
STI	science, technology and innovation
TBP	technology balance of payment
TIA	Technology Innovation Agency
TIP	Toolkit for Integrated Planning
TWAS	Academy of Sciences of the Developing World
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNIDO	United Nations Industrial Development Organization
UoT	universities of technology
VLDB	very large database

FOREWORD BY THE MINISTER



Naledi Pandor
Minister of Science and Technology

FOREWORD

The progress we have made in achieving the goals outlined in the National Research and Development Strategy and the Ten Year Innovation Plan is addressed in some detail in the Annual Report. In this foreword I would like to highlight a few examples of the ways in which South African science has utilised its comparative advantages to strengthen state-funded science, engineering and technology research and to meet the challenges facing the nation.

Astronomy and space science

We completed the KAT-7 in early 2010. This is the precursor array for the MeerKAT, a demonstrator telescope that will be the most sensitive radio telescope in the Southern Hemisphere and is an important part of our bid to host the larger Square Kilometre Array (SKA). South Africa is one of two potential hosts for the SKA, which is one of the great scientific projects of the 21st century. This €1.5 billion project is so vast that many countries are collaborating in the provision of skills and funding. To date, 19 countries (and 55 scientific institutions) have joined the project. If we succeed in bringing the SKA to Africa, it will be a major catalyst for scientific development in Africa. In hosting the SKA we would make effective use of the comparative advantage of our clear and quiet skies and make Africa a world centre of physics, astronomy and high-tech engineering.

Most importantly, the excitement and challenges of astronomy and space science are already attracting some of our best students to the study of science and engineering. In order to expand the human capital development potential of this project, we announced the creation of five new research chairs related to fields of study associated with the development of the SKA.

Plans for the establishment of a National Space Agency were developed in the period under review and the Agency will be launched in 2010. As provided for in the South African National Space Agency Act, the Agency will foster research

in earth observation, communications, navigation and space physics; international cooperation in space-related activities; and advanced scientific, engineering and technological competencies through human capital development and outreach programmes. The Space Agency will build on the successful development and launch, in September 2009, of our country's second indigenous satellite, SumbandilaSat.

Hydrogen and fuel cells

South Africa has proven strengths in resource-based and mining industries. The DST has funded centres of competence to promote beneficiation of these natural resources. An example is the promotion of hydrogen and fuel cell technology which makes use of the catalytic capability of platinum and takes advantage of the fact that South Africa has more than two-thirds of global platinum reserves. In July 2009, the DST partnered with Anglo Platinum to support this research and development for an alternative form of cleaner energy.

The bioeconomy

As reported previously, the Biotechnology Regional Innovation Centres (BRICs) - CapeBiotech, BioPAD, LIFElab and PlantBio - have been established across the country in order to enhance biotechnology research and innovation. These BRICs have led to the establishment of 30 start-up biotechnology companies, stemming from university research and intellectual property generated by South African innovators.

Our biotechnology sector is small in comparison to many countries and in order to strengthen it we combined our National Biotechnology Strategy and our Health Innovation Strategy into a single Bioeconomy Strategy. Despite the complexity of the task and the globally competitive nature of the biotechnology industry, we are confident that we have the human and infrastructural capacity to reach our goal of

FOREWORD

FOR THE YEAR ENDED 31 MARCH 2010

becoming one of the top three emerging economies in the global pharmaceutical industry.

One of the most important initiatives under the Strategy was the launch of the South African HIV/Aids Research and Innovation Platform (SHARP), in July 2009. SHARP is managed on our behalf by LIFElab and funds critical research, development and innovation initiatives focusing on aspects of prevention and/or treatment of HIV/Aids, including basic research, and the development of new or improved treatments and ARVs. These include microbicides, prophylactic treatments, and preventative and therapeutic vaccines.

The 2009/10 Annual Report elaborates on these and many more indicators of progress in positioning South Africa as a knowledge-based economy.

Yet there is so much that still needs to be done.

New knowledge, such as that generated by scientists and technologists, is an essential ingredient in addressing the serious challenges that confront our country. The examples above are directly related to addressing the great need for increased employment, poverty eradication and the improvement of the quality of life of all South Africans.

Investing resources in space science and astronomy provides the information that enables planning and preparation to deal with droughts and climate changes.

We need to protect the food security and water security of our people.

Investing resources in biotechnology enables us to focus our best minds on the serious issues of HIV/Aids, tuberculosis, malaria and illnesses that affect the quality of the lives of our people. We need to remind ourselves that these illnesses affect the lives of our people more than they affect the lives of people in countries that have historically dominated the production of medicines.

We must produce the medicines that we need.

Investing in finding ways to extract the full value from our natural mineral resources will position our country and the continent to generate the significant employment opportunities that are currently being exported along with the raw materials.

The fact is that we need to invest more, not less, in research and development. This Annual Report shows us just how important such an investment is to the nation.

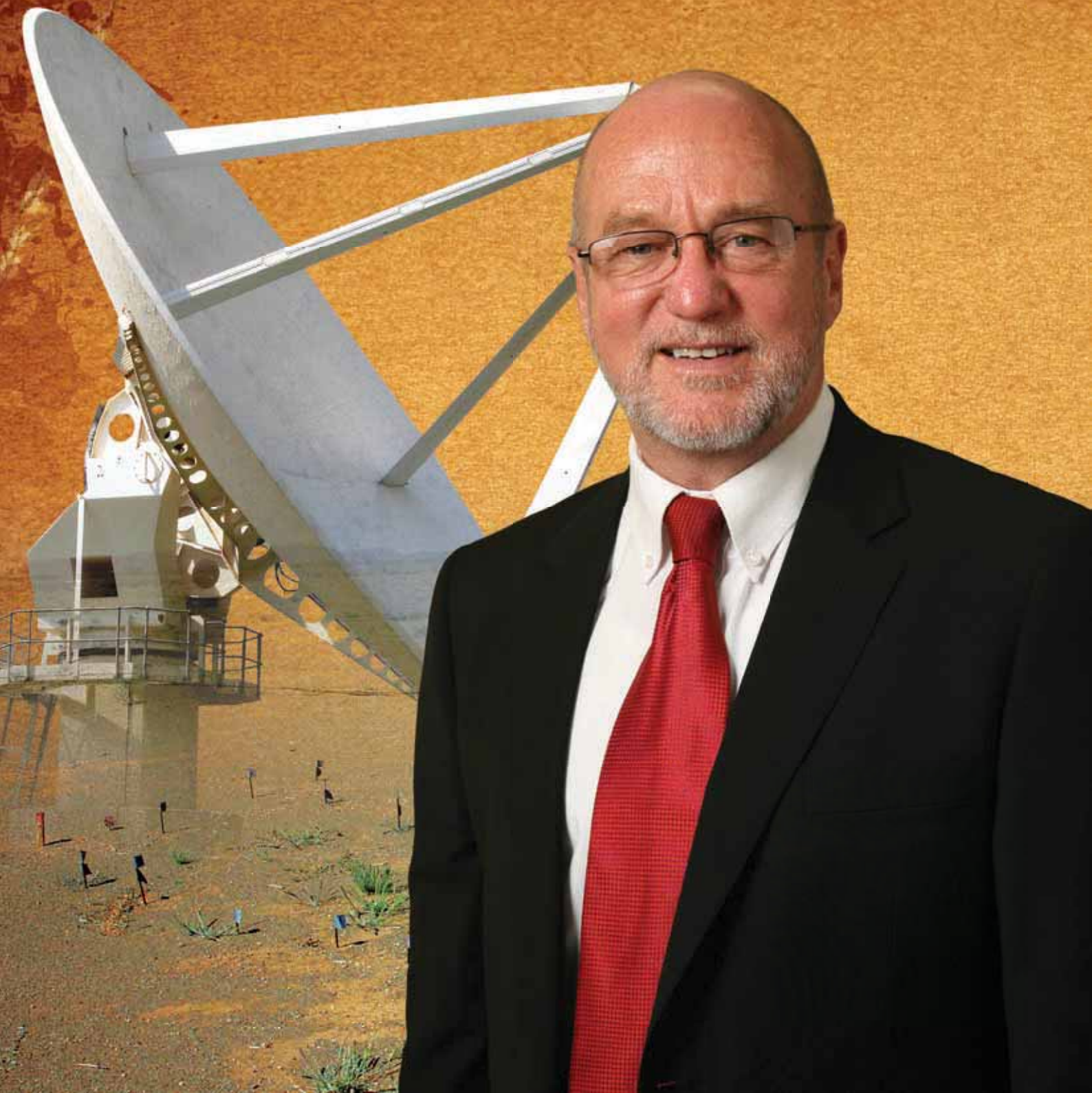


NALEDI PANDOR

Minister of Science and Technology



PREFACE BY THE DEPUTY MINISTER



Derek Hanekom

Deputy Minister of Science and Technology

PREFACE

The Annual Report captures the Department of Science and Technology's major achievements between April 2009 and April 2010. These take the form of significant scientific discoveries and strategic interventions. To meet our ambitious goals we will need thousands of talented and skilled researchers and technologists. To this end, our investment in bursaries will increase to R76 million in the next financial year. In the 2010 academic year a further R52,7 million will be allocated to improve the value of grant-holder linked and free-standing bursaries.

During the year under review Prof. Lee Berger of the University of the Witwatersrand made the announcement of the discovery of two remarkable fossil skeletons (adult and child) of a previously unknown hominid species at the Cradle of Humankind. This new species is now known as *Australopithecus sediba*. Following a naming competition, which attracted more than 15 000 entries from learners across South Africa, the juvenile hominid skeleton was given the name Karabo. Deputy President Kgalema Motlanthe described the discovery as "the most significant palaeontological find in nearly a century".

In the year under review, we have increased our investment in academic and research staff. The number of chairs under the South African Research Chairs Initiative, a critical instrument in the area of human capital development, has increased to 82. The number of postgraduate students supported by research chair grants has gone from 115 in 2007 to 423 in 2009; of the 423 students, 51% are black, 47% female and 76% South African. While this initiative has allowed us to attract leading researchers and doctoral candidates we need to expand beyond the planned target of 210 chairs.

The Youth into Science Strategy adopted by the DST will continue contributing to our goal of developing a strong science, engineering and technology base. Our collaboration with the Department of Basic Education in

the implementation of its National Strategy for Mathematics, Science and Technology Education will continue. The DST has adopted 18 Dinaledi Schools (two in each province), all in reasonable proximity to science centres.

Our efforts to garner support for the Department's Hydrogen and Fuel Cell Technologies Research, Development and Innovation Strategy were rewarded when Anglo Platinum launched a R100 million platinum development endeavour.

We will continue creating public awareness about the Research and Development (R&D) Tax Incentive Programme. The Programme seeks to promote private sector investment in R&D to complement government expenditure. In terms of the Programme, taxpayers can claim for eligible scientific or technological R&D salary and wage expenses, materials, building, machinery, equipment, R&D overheads, and R&D contracts.

Our research community continues to play a vital role in the health care sector. In July 2009 we launched the South African HIV and Aids Research and Innovation Platform (SHARP). Its aim is to provide a platform for evidence-based solutions that will contribute to the HIV/Aids and Sexually Transmitted Infections Strategic Plan for South Africa.

In the year under review, the South Africa Tuberculosis Research and Innovation Initiative and the United States of America's National Institutes of Health (NIH) completed the first phase of a programme to discover new drugs for the treatment of tuberculosis. Led by a South African biologist stationed at the NIH, the South African-United States teams in Washington have screened 35 000 drug-like compounds, discovering 640 totally new drug-like compounds, which present exciting potential to become new drugs for the treatment of tuberculosis. Over the next decade scientists from both countries will be working together to realise the goal of developing the first South African drug for TB treatment. At the same time they will be contributing to

PREFACE

FOR THE YEAR ENDED 31 MARCH 2010


global efforts of discovery in this arena and building local capacity and capabilities in drug discovery and development.

One of the biggest challenges facing humanity today is the threat of climate change. We will continue searching for innovative ways of dealing with the effects of climate change, because we recognise the seriousness of our situation, and the impact of human activity on the natural resources on which life depends. We have included global change science as one of the grand challenge areas in our Ten-Year Innovation Plan.

Any effective response to climate change must be linked to the broader outcome of building an environmentally, socially and economically sustainable South Africa. Our ongoing challenge is to find and adopt ways of reducing our carbon, pollution and waste footprint.

We have made significant progress in our efforts to adapt to climate change and to support mitigation efforts. Through our partnership with the scientific and research community we have finalised a 10-year Global Change Research Plan. It identifies areas of knowledge generation that are essential to supporting not only a better understanding of climate change and environmental impacts, but also policy, decision-making and action.

Through initiatives such as the South African Research Chairs Initiative, the Applied Centre for Climate and Earth Systems Science, and other innovative programmes, the Department is helping to build the next generation of leaders, managers and researchers to support the sustainable development efforts of government, industry, and other institutions.



DEREK HANEKOM

Deputy Minister of Science and Technology

“To meet our ambitious goals we will need thousands of talented and skilled researchers and technologists.”

INTRODUCTION BY THE DIRECTOR-GENERAL



Dr Phil Mjwara

Director-General of Science and Technology

INTRODUCTION

It is my honour to present the Department of Science and Technology's annual report for the 2009/10 financial year.

During the year the Department continued its work to ensure that science and technology contribute to social and economic development, and that South Africa is increasingly seen as a strategic international partner in research, development and innovation.

I am pleased to report that the Department maintained its high standards of financial performance, spending 98,2% of its annual budget and receiving another unqualified report from the Auditor-General.

Progress made with our bid to host the Square Kilometre Array shows that Africa has the capacity to build this massive radio telescope.

The first four telescopes in the MeerKAT precursor array, also known as KAT-7, have been linked together as an integrated system to produce the first interferometric image of an astronomical object.

This is a significant step because it means that South Africa has its own functioning radio interferometer which, technically, could be handed over to astronomers who could begin to do science with it; science that was not possible in Africa before.

In February we were able to look at the first images generated by SumbandilaSat since it was successfully launched into space in September 2009. This project will strengthen our technological capabilities in satellite engineering, and provide training and earth-observation data for a wide range of applications.

A truly historic moment in the 2009/10 financial year was the discovery of early hominid remains by Prof. Lee Berger of the University of the Witwatersrand. *Australopithecus*

sediba is one of the most significant palaeoanthropological discoveries in recent times, and is proving to be of immense value in assisting South Africa to appreciate its scientists and their abilities, and as well as Africa's place in the evolution of humanity.

Progress has been made in operationalising the Technology Innovation Agency, and a board for the South African National Space Agency has been appointed in terms of the South African National Space Agency Act, 2008.

The regulations under the Intellectual Property from Publicly Financed Research and Development Act, 2008, were signed in December 2009, laying the foundation for the establishment of the National Intellectual Property Management Office.

The Department continues to provide support to initiatives aimed at improving socio-economic conditions through innovative local technology solutions, and the creation of SMMEs, sustainable jobs and wealth. The abalone harvesting pilot project in Hondeklip Bay has shown that the commercial production of abalone using aquaculture technologies is feasible, while the wireless mesh network project is on target to connect at least 450 schools and to create local economic opportunities for young entrepreneurs in municipalities in the Northern Cape and Limpopo.

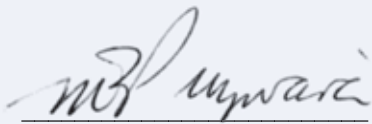
With over 60 international agreements in place, the Department has focused on relations with key partners and emerging economies.

Good progress is also being made with an innovative process for the production of low-cost titanium. Two patent applications have been filed on the primary process, and initial successes in this area of research will be supported by the establishment and operational testing of a primary titanium plant by 2012.

INTRODUCTION

FOR THE YEAR ENDED 31 MARCH 2010


The achievements of the Department are underpinned by its senior managers' commitment to good corporate governance and strategic planning, the dedicated efforts of the public entities and other stakeholders in the National System of Innovation, and the leadership and support of Minister Naledi Pandor and Deputy Minister Derek Hanekom, to whom I would like to express my sincere gratitude.



Dr PHIL MJWARA

Director-General of Science and Technology





The Department continues to provide support to initiatives aimed at improving socio-economic conditions through innovative local technology solutions, and the creation of SMMEs, sustainable jobs and wealth.

STRUCTURE

FOR THE YEAR ENDED 31 MARCH 2010



Naledi Pandor

Minister of Science and Technology



Derek Hanekom

Deputy Minister of Science and Technology



Dr Phil Mjwara

Director-General



Themba Dlamini

*Programme 1:
Deputy Director-General
Corporate Services and Governance*



Dr Valanathan Munsami

*Programme 2:
Acting Deputy Director-General
Research, Development and Innovation*



Dr Thomas Auf der Heyde

*Programme 3:
Deputy Director-General
International Cooperation and Resources*



Dr Molapo Qhobela

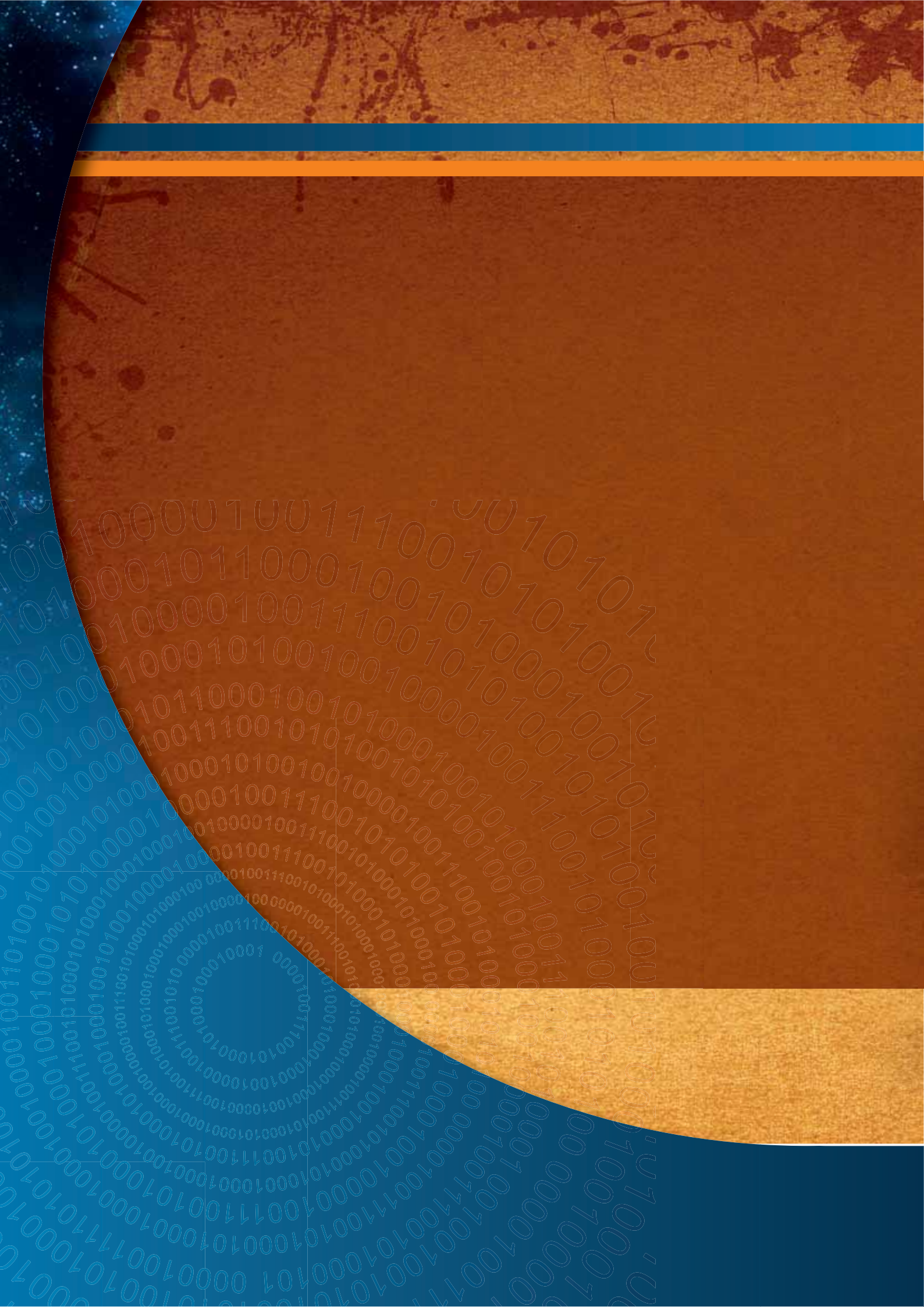
*Programme 4: Deputy Director-General
Human Capital and Knowledge Systems*

Vacant
Chief Operating Officer



Marjorie Pyoos

*Programme 5: Deputy Director-General
Socio-Economic Partnerships*





VOTE 31

Aim of vote:

The Department of Science and Technology seeks to realise the full potential of science and technology in social and economic development, through the development of human resources, research and innovation

PERFORMANCE

OVERVIEW

PERFORMANCE OVERVIEW

FOR THE YEAR ENDED 31 MARCH 2010

The implementation of the National Research and Development Strategy and the roll-out of the Ten-Year Innovation Plan for South Africa continued to be the primary focus of the Department of Science and Technology (DST) in the 2009/10 financial year, and substantial financial resources were committed towards the attainment of their objectives. The DST identified a number of key factors to guide its efforts through targeted investments in specific areas. The DST's performance in most of the key areas identified was satisfactory and important achievements were made.

In an effort to exploit South Africa's geographic advantage for space-related research, and to harness the benefits of space science and technology for socio-economic growth and sustainable development, a number of targeted national space initiatives are being pursued. South Africa's bid to host the Square Kilometre Array (SKA) radio telescope forms a significant part of the drive to establish Africa as an emerging global destination for astronomy. The bid was strengthened by the completion of the seven-dish Karoo Array Telescope in January 2010, the first step in the construction of the SKA demonstrator telescope, the 80-dish MeerKAT.

The launch of SumbandilaSat, an earth observation microsatellite, on 17 September 2009, was one of the highlights of the 2009/10 financial year. SumbandilaSat will strengthen South Africa's technological and innovation capability in space science and technology, as well as reinforcing the country's role in national, regional and global space initiatives. The satellite is currently acquiring data that will be used for agricultural and environmental monitoring in southern Africa.

As part of developing the National System of Innovation, the processes to establish the Technology Innovation Agency (TIA), the South African National Space Agency (SANSA) and the National Intellectual Property Management Office were initiated during the 2008/09

financial year. These institutions will contribute significantly to the national capacity to ensure that a greater proportion of local research and development (R&D) is converted into commercialisable technology products and services. While the focus in 2008/09 was on developing the enabling legislation, the emphasis in 2009/10 was geared towards getting the two institutions fully operational. The boards of both TIA and SANSA, and an acting CEO for TIA, were appointed. Moreover, great progress was made towards the finalisation of regulations for intellectual property management.

Efforts to reduce the disease burden in South Africa were boosted through the launch of the South African HIV/Aids Research and Innovation Platform (SHARP) in July 2009. The aim of SHARP is to provide a platform for evidence-based solutions that will contribute to the HIV & AIDS and Sexually Transmitted Infections Strategic Plan for South Africa.

The development of the Hydrogen and Fuel Cell Technologies Research, Development and Innovation Strategy by the DST in 2008 was in response to international calls for countries to adopt cleaner energy technologies and to the need to diversify energy sources for the country. Efforts targeted at garnering support for the Department's Hydrogen and Fuel Cell Technologies Research, Development and Innovation Strategy were rewarded when Anglo Platinum launched a R100 million Platinum Development Fund for the beneficiation of platinum group metals for commercial purposes.

Targeted partnerships with both regional and international partners are an integral part of the DST strategy of leveraging resources through collaborations. The DST successfully leveraged R178 million in official development assistance from partners like Canada, the European Union, Finland, Germany, Japan and the United States of America, with a further R11 million leveraged from partners like Australia, Canada, France, Germany, and Japan for human

capital development (HCD) initiatives. Other significant regional and global participation highlights during 2009/10 include winning the bid to host a new regional NEPAD water initiative, co-chairing the steering group for the OECD's Global Science Forum project on science and technology (S&T) cooperation between developed and developing countries, and serving on the OECD's Committee for Scientific and Technological Policy steering group on science, technology and innovation (STI) cooperation.

The DST continued to invest in initiatives to increase the number and diversity of young people entering and remaining in careers in S&T. The number of chairs under the South African Research Chairs Initiative (SARChI), a critical instrument in the area of HCD, was increased to 82 in the 2009/10 financial year. The initiative is succeeding in contributing to the transformation of South Africa's cohort of scientists. The number of postgraduate students supported by research chair grants grew from 392 in 2007 to 514 in 2009.

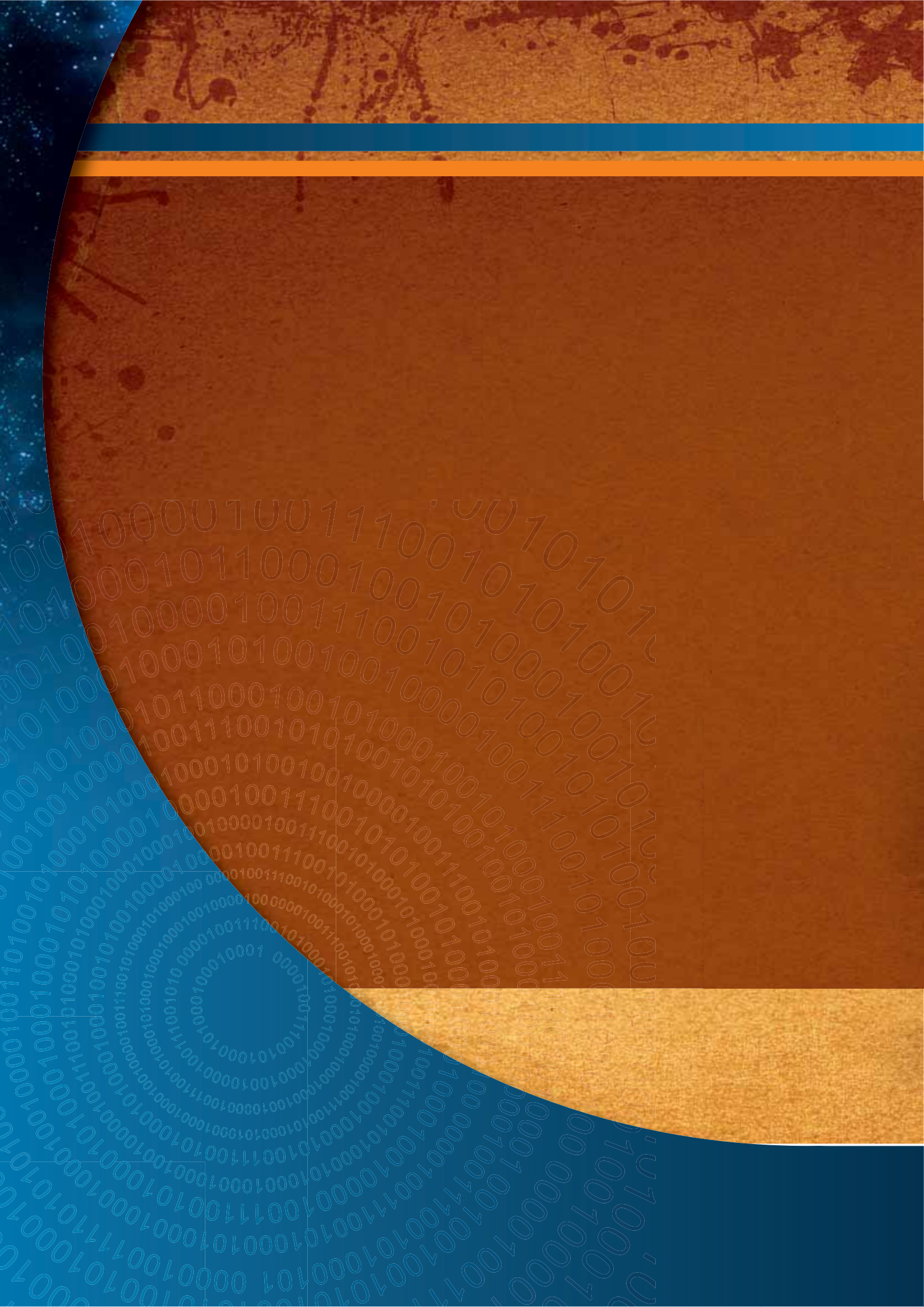
Science awareness is an important component of the DST's human capital drive and is aimed at garnering interest in S&T among learners, educators and the public. A successful National Science Week (NSW), which doubled as a 10-year celebration of the NSW programme and attracted about 204 000 participants, was launched by the Minister in Kimberley, in the Northern Cape (a province of international significance for astronomy, as 2009 was the International Year of Astronomy). Countrywide NSW activities were made possible by the involvement of a record number (over 70) of organisers and grant holders. Moreover, the International Year of Astronomy (IYA) campaigns took astronomy to all science outreach institutions and every target group, and brought together participants from various parts of Africa.

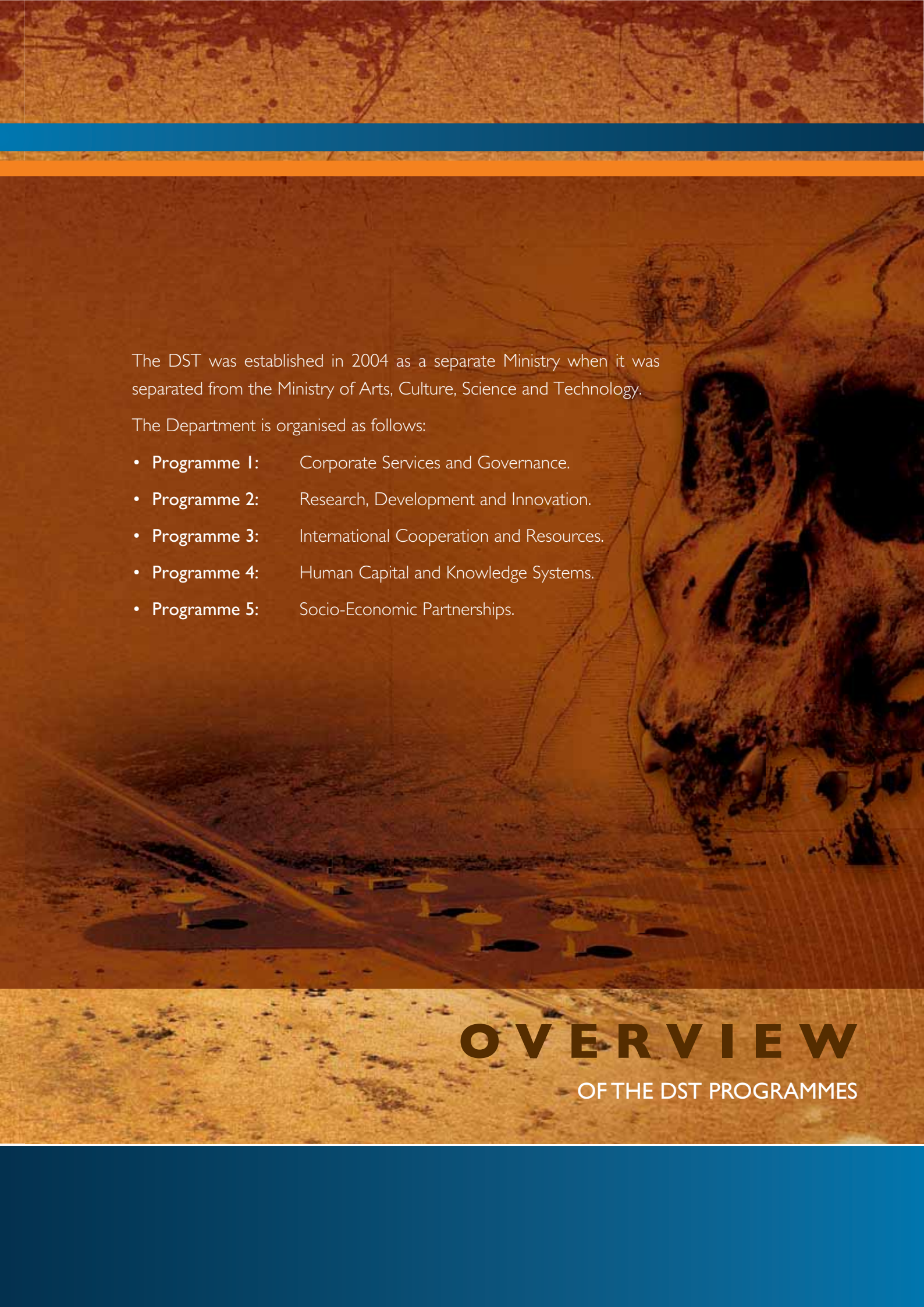
The DST has prioritised investment in research and development (R&D) infrastructure, a key enabler for

R&D. To this effect, Phase II of the establishment of the Centre for High-Performance Computing (CHPC), one of the key components of the national cyberinfrastructure system, was completed in September 2009. Moreover, a hybrid supercomputer was installed, bringing the total computational capacity of the CHPC to 30 teraflops, thus making it the fastest supercomputer in Africa.

The R&D Tax Incentive Programme seeks to promote private-sector investment in R&D to complement government expenditure. More companies have become aware of the Programme, and the volume of enquiries received by the Department has increased substantially. By the end of October 2009, the DST had received a total of 301 submissions, with reported R&D expenditure of about R3,2 billion. In addition, the results of the National Survey of Research and Experimental Development 2007/08 indicated a 12% increase in gross investment in R&D (to R18,6 billion). This amount, however, is still R5 billion short of the target of 1% of GDP set for 2010. The DST has thus commenced consultations within government on planning for public investment in R&D, as well as on schemes to support R&D in small businesses that have not yet benefited from the R&D Tax Incentive Programme.

While these achievements show significant progress in the implementation of the DST's priority areas, there were challenges in the delivery of some of the targets set in the 2009/10 business plan. Some of these can be attributed to inadequate financial resources, the inherent delays of the legislative processes, and the framing of multi-year activities as a single event.





The DST was established in 2004 as a separate Ministry when it was separated from the Ministry of Arts, Culture, Science and Technology.

The Department is organised as follows:

- **Programme 1:** Corporate Services and Governance.
- **Programme 2:** Research, Development and Innovation.
- **Programme 3:** International Cooperation and Resources.
- **Programme 4:** Human Capital and Knowledge Systems.
- **Programme 5:** Socio-Economic Partnerships.

OVERVIEW

OF THE DST PROGRAMMES

PROGRAMME I: **CORPORATE SERVICES AND GOVERNANCE**

This Programme is responsible for the overall management of the Department and for providing centralised support services to ensure that funded organisations comply with good corporate governance practices and are aligned with the strategic focus of the National System of Innovation (NSI), as well as monitoring and evaluating the science councils. It has the following components:

- The offices of the Minister, the Deputy Minister and the Executive Committee.
- Corporate Services, which is responsible for finance, strategy and planning, communications, human resources, legal services, information technology systems and support, and internal auditing.
- Property Management, which covers functions and funds that have been devolved from the Department of Public Works.



PROGRAMME 2: RESEARCH, DEVELOPMENT AND INNOVATION

This Programme envisions South African communities that are prospering through enhanced employment prospects, the creation and retention of local wealth, and an enriched cultural and social environment. To realise this vision, the Programme strives to foster and promote South African innovation and high-technology development in a manner that will enhance and add value to the country's technology products and services, including exports.

The overall strategic purpose of the Programme is to –

- deliver new technology-based industries to the South African economy by developing appropriate strategic roadmaps for chosen sectors of the economy, including energy, space, health and biotechnology;
- create the appropriate policy and institutional implementation instruments in order to deliver technology products and services from the sectors of the economy;
- develop and implement appropriate policies to promote and protect intellectual property that is the result of publicly financed R&D in South Africa.

The Programme provides policy leadership in the DST's long-term cross-cutting research, development and innovation (RDI) initiatives through the following four subprogrammes:

- Space Science and Technology.
- Hydrogen and Energy.
- Biotechnology and Health Innovation.
- Innovation Planning and Instruments.

Service delivery objectives and indicators

2.1 Space Science, Engineering and Technology

The Subprogramme focuses on two aspects that are critical for a viable space programme. The first relates to the development of relevant and appropriate space

technology platforms in order to ensure that South African space applications deliver in a wide array of key priority areas, including earth observation, in the most cost-effective manner. The second aspect relates to radio astronomy and has entailed the creation of the Radio Astronomy Advances function within the Subprogramme. This function is responsible for developing and implementing strategies to optimise Africa's bid to host the SKA radio telescope.

Recent outputs and highlights

(a) The launch of SumbandilaSat

The launch of the earth observation microsatellite SumbandilaSat was a notable highlight and marked South Africa's re-entry into the global space arena. SumbandilaSat, meaning "lead the way" in Tshivenda, is a technology demonstrator aimed at –

- learning the underlying modalities for putting such a mission together for future satellite missions;
- developing services and products to address specific user needs;
- increasing our space heritage;
- building human capital through an internship programme.

The launch of the satellite will strengthen South Africa's technological and innovation capability in space science and technology, as well as reinforce the country's role in regional and global space initiatives. The satellite is currently orbiting about 500 km to 600 km above the Earth carrying high-resolution cameras that will produce images to be used for agriculture, mapping infrastructure and land use, population measurement and monitoring dam levels, among other things. The data will be helpful in managing natural disasters such as floods and fires, as well as food security (crop-yield estimation), health risks

PROGRAMME 2: RESEARCH, DEVELOPMENT AND INNOVATION

FOR THE YEAR ENDED 31 MARCH 2010

(prediction of disease outbreaks), safety and security, water resources and energy security. Information or data acquired by the satellite will be streamed to the Satellite Applications Centre at Hartebeesthoek, near Pretoria.

SumbandilaSat has major impacts on two fronts:

- It provides a learning experience for future satellite missions – the development of a mission control, together with building capacity in the area of satellite calibration and validation, has provided a base platform for all future missions.
- It allows for the development of key services and products, ranging from agricultural applications relating to the primary payload to rural communications relating to the onboard communications transponder.

In order to ensure that the space programme remains viable and sustainable, the DST has initiated a number of HCD initiatives geared towards providing human capital resources. The initiatives have a dual focus, namely –

- space engineering – with the primary focus on developing engineers that will have the necessary skills to design, develop and manufacture satellites and elements of the supporting ground segment;
- space applications – that allow for the development of specific services and products, and the underlying processing required for transforming primary data into useful information.

(b) The Square Kilometre Array

South Africa is bidding to host the world's largest and most powerful radio telescope, the Square Kilometre Array (SKA). Following an initial identification of sites suitable for the SKA by the International SKA Steering Committee in 2006, Africa and Australia were shortlisted to host the SKA. A consortium of the major international science funding agencies, in consultation with the SKA Science and Engineering Committee, will announce the selected site to host the SKA in 2012. South Africa's bid proposes that the core of the telescope be located in an

arid area of the Northern Cape, with about three antenna stations in Namibia, four in Botswana and one each in Mozambique, Mauritius, Madagascar, Kenya and Zambia. Winning the bid will make South Africa a hub in the field of astronomy and related technologies.

Since the beginning of the SKA bid, the South African SKA project has provided temporary employment to approximately 600 people in the Northern Cape. These job opportunities are linked to the power supply, road construction and building support facilities for the African SKA bid demonstrator telescope, MeerKAT. Moreover, the upgrade of the Karoo support base office and staff housing was supported by the Northern Cape Department of Public Works. The support base is intended to become the maintenance facility for the MeerKAT site near Camarvon, and is geared for co-location with a tourism centre. At the MeerKAT site, the completion of the dish construction shed and accommodation on site allowed for an accelerated erection of the MeerKAT precursor array, the seven-dish Karoo Array Telescope (KAT-7). The construction of KAT-7 follows the construction of a prototype dish, the Experimental Development Model, at the Hartebeesthoek Radio Astronomy Observatory (HartRAO) in 2007.

The South African SKA project also supports the development of mathematics and science education in the towns of Camarvon and Williston, with the intention of providing learners with the skills and knowledge to be able to take advantage of the opportunities available through the project's bursary programmes and other opportunities in the country. Interventions will be available at all developmental levels, from early childhood to high school, and will be customised according to the unique requirements of the communities. The need for access to basic educational resources and facilities in the communities has also been recognised.

Moreover and in addition to PhD and MSc graduates, the MeerKAT and SKA projects will require qualified and experienced technicians to operate and maintain

the telescope systems. To this effect, the South African SKA Project initiated a technician training programme in 2009, which supports students who wish to complete the in-service training component of their studies in radio astronomy. The students are trained at HartRAO and on site at the MeerKAT facility in the Karoo.

In keeping with the progress made in the field of astronomy, South Africa hosted the third Centre for Astronomy Signal Processing and Electronic Research (CASPER) workshop during September 2009, bringing together researchers from the USA, the UK, Italy, India, France, Korea and China. CASPER is an international collaboration of scientists and engineers, whose goal is to develop components which can be used to construct radio astronomy instruments. The main objective is to produce radio astronomy instruments that convert radio astronomy signals into information that can be used by scientists to understand the universe.

In addition, in March 2010 the SKA African partner countries met in Egypt, where they issued a joint declaration of support acknowledging that the SKA project would play an important role in creating knowledge economies and driving HCD programmes. The March 2010 meeting in Egypt agreed to strengthen SKA cooperation as follows:

- Each partner country would set up a site readiness team to optimise processes regarding land, the mobility of people and equipment.
- The African partner country site readiness teams would meet twice a year to share relevant information on infrastructure, regulations and progress on requirements for the success of the African SKA bid.
- The DST would assist associate and partner countries to craft HCD plans and communications programmes linked to the African SKA bid.

2.2 Hydrogen and Energy

In addition to ensuring a supportive policy environment, the Subprogramme: Hydrogen and Energy sets up and gives strategic direction to platforms that develop and commercialise innovative technology solutions to help achieve energy security in a way that contributes to economic growth, ensures access to modern energy services for all South Africans, and protects the environment.

The framework for implementation is provided by the draft energy RDI strategy document, which was approved by the Executive Committee during 2009. In support of the Ten-Year Innovation Plan, the strategy is intended to transform South Africa's energy industry into a globally competitive sector that delivers knowledge-intensive technology solutions to both local and global markets.

Recent outputs and highlights

The DST is making huge strides towards the realisation of the Hydrogen and Fuel Cell Technologies Research, Development and Innovation Strategy (HySA) objectives. The focus in the 2009/10 financial year was mainly on the development of the HySA Catalysis and HySA Systems centres of competence (CoCs) to facilitate human capacity development, capital acquisitions, and the undertaking of projects.

The following are some of the highlights of 2009/10:

- To support the HySA, Anglo Platinum launched a R100 million Platinum Development Fund for the beneficiation of platinum group metals for commercial application.
- A technology transfer deal with an international company to build a fuel cell manufacturing company is being negotiated.
- HySA Systems held two very successful progress review workshops, indicating the interest that has been generated from both prospective students and potential academic and industrial partners.

- The number of students enrolled with HySA in the 2010/11 financial year has almost doubled.
- A hydrogen-powered bicycle designed and built in South Africa will be unveiled in August 2010 at the Resource-driven Technology Concept Centre for South Africa Conference.
- Stationary fuel cell exhibition units were installed for public awareness, demonstration and education at three science centres.
- The South African Nuclear Human Asset and Research Programme was funded to the amount of R15 million. A total of 114 learners from 32 schools were supported, and 107 of those students proceeded to the next grade. 17 university students who have been sponsored by the programme completed their studies in 2009.

2.3 Biotechnology and Health Innovation

The Subprogramme: Biotechnology and Health strategises for the development of a world-class bioeconomy in South Africa. To date, the Subprogramme has focused on the implementation of the National Biotechnology Strategy of 2002. The establishment of a number of biotechnology regional innovation centres (BRICs) has changed the biotechnology sector in South Africa, resulting in the creation of biotechnology platforms, infrastructure, start-up companies, products and services. Thus far DST investment in the BRICs has been used to leverage an additional 33% in funding for BRIC projects.

The framework for Science and Technology for Health Innovation was developed in 2005. In strengthening its policy leadership the Subprogramme builds on synergies with indigenous knowledge systems, as well as the biodiversity research grouping, to deliver on the Ten-Year Innovation Plan's Biotechnology ("Farmer to Pharma") Grand Challenge.

Recent outputs and highlights

(a) The South African HIV/Aids Research and Innovation Platform

The HIV/Aids epidemic in South Africa has affected every facet of society and industry, and research is critical to turning the tide against Aids. The DST remains committed to intensifying political support for research efforts towards the development of new, safe and affordable anti-HIV/Aids products and technologies, and launched the South African HIV and Aids Research and Innovation Platform (SHARP) in July 2009. SHARP will serve as a centre that provides strategic leadership to enhance, consolidate and direct basic and applied research related to HIV prevention and treatment in South Africa.

The objective is to increase the number and quality of South African-developed products and services for the prevention and treatment of HIV/Aids through increased support for basic and applied RDI in the areas of antiretrovirals, microbicides, vaccines and diagnostics. Besides funding research projects, SHARP will aim to attract donations from national and international sources to build the capacity of young researchers in the HIV/Aids field, facilitate the sale of products that result from research projects, and implement systems for sharing knowledge and protecting intellectual property.

2.4 Innovation Planning and Instruments

The overall goal of the Subprogramme: Innovation Planning and Instruments is to develop policies and strategies that will enable South Africa to establish local technological capabilities in order to produce its own goods and services, to improve competitiveness in key sectors, to reduce reliance on imported technologies, and to become a net exporter of locally produced high-technology products and services.

To do this the main focus of the Subprogramme is the development of innovation policy and strategic interventions that address the challenges associated

with taking research outcomes to market by creating an enabling environment for technology commercialisation for positive socio-economic impact.

Recent outputs and highlights

Following the Presidential assent to the Technology Innovation Act, 2008 (Act No. 26 of 2008), in December 2008, the process of establishing the Technology Innovation Agency (TIA) culminated in the appointment of the TIA Board of Directors, as well as an interim CEO while the recruitment process for a CEO was under way. TIA incorporates the following DST innovation instruments: the Innovation Fund, Tshumisano Trust, the implementation unit for the Advanced Manufacturing Technology Strategy (AMTS), and the biotechnology innovation centres (LIFElab, BioPAD, Cape Biotech and PlantBio). At the end of the financial year, the entity migration process was already under way with the AMTS, Innovation Fund and Tshumisano incorporated into TIA. The main functions of the TIA are to provide both financial support (using a suite of financial support instruments) and non-financial support (including technical support, technology nurseries, and commercialisation advice) to the NSI in respect of technology development and the commercialisation of technologies.

With regard to the protection of intellectual property from publicly financed R&D, the Intellectual Property from Publicly Financed Research and Development Act (IPR Act), 2008 (Act No. 51 of 2008), was enacted. During the 2009/10 financial year, the DST focused its attention on public consultations on the regulations for the implementation of the IPR Act. The first draft of the regulations was published for comment in *Government Gazette* No. 32120 on 9 April 2009. Following consultations and several written submissions, the regulations were reviewed on the basis of input received from stakeholders and approved by the Minister of Science and Technology.

The implementation of the TIA and the IPR Acts will support the commercialisation of locally developed technologies, and provide a sound management system for intellectual property developed using public money.

PROGRAMME 3: **INTERNATIONAL COOPERATION AND RESOURCES**

This Programme aims to strategically develop, promote and manage international relationships, opportunities and S&T agreements that strengthen the NSI and enable an exchange of knowledge capacity and resources between South Africa and its regional and international partners. It has three subprogrammes:

- Overseas Bilateral Cooperation.
- Multilateral Cooperation and Africa.
- International Resources.

Service delivery objectives and indicators

3.1 Overseas Bilateral Cooperation

The Subprogramme: Overseas Bilateral Cooperation promotes and facilitates collaborative activities and leverages resources in support of the NSI from countries outside Africa, with specific focus on developing a knowledge-driven economy. Through the implementation of a new international cooperation strategy, these relationships will be realigned to address the grand challenges and associated cross-cutting imperatives set out in the Ten-Year Innovation Plan and the National Research and Development Strategy (NRDS).

The Subprogramme promotes the leveraging of foreign direct investment, functional bilateral relationships, an innovation culture, increasing the number of large-scale research projects, and facilitating access to international skills and big science facilities. Moreover, the Subprogramme focuses on obtaining international support for the development and implementation of new DST strategies in support of the grand challenges and other DST initiatives, including the South African National Space Agency and TIA. The Subprogramme also focuses on leveraging support for HCD, knowledge generation, knowledge infrastructure and research excellence, using instruments such as the Science and Technology

Agreements Fund, SARCHI, centres of excellence (CoEs), and CoCs.

3.2 Multilateral Cooperation and Africa

The Subprogramme: Multilateral Cooperation and Africa advances and facilitates South Africa's participation in strategic African bilateral agreements and multilateral organisations on STI, so as to strengthen the NSI and to achieve shared economic and social development in the region and the continent. In order to support the implementation of the Ten-Year Innovation Plan, the Subprogramme –

- attracts foreign direct investment expertise and knowledge into the science system, and enlarges research and innovation networks through functional strategic multilateral partnerships;
- creates opportunities to promote South Africa and the NSI in multilateral S&T organisations;
- leverages resources from international partners in support of closer S&T links with regional and African partners;
- deepens regional integration in STI to support the implementation of the Science and Technology Consolidated Plan of Action and the Southern African Development Community (SADC) Protocol on STI, including providing support for the establishment of the SADC S&T Desk.

3.3 International Resources

The Subprogramme: International Resources works to increase the flow of international resources into the country by creating conditions for access to international STI skills and global projects. This includes maintaining highly functional relationships with international partners at bilateral and multilateral level, and brokering these at institutional level for the benefit of all NSI institutions. The efforts of the Subprogramme are supported by the

development of dedicated competence in research, which increases the effective targeting of appropriate partners. Lastly, but very importantly, the Subprogramme facilitates the integration of partnerships with donor countries into the DST's national and regional S&T activities.

Recent outputs and highlights

South Africa has increased its participation in multilateral organisations and has enhanced its regional and global impact. For example, Stellenbosch and North West Universities were nominated to serve as regional administrative hubs for thematic research coordination for the network of CoEs in water and indigenous knowledge systems (IKS), respectively. In addition, South Africa co-chairs the steering group for the OECD's Global Science Forum project on S&T cooperation between developed and developing countries, and is serving on the OECD's Committee for Scientific and Technological Policy steering group on STI cooperation to address global challenges.

During South Africa's SADC chairmanship in 2009 – and following the secondment of an official and the launch of the SADC STI Desk – South Africa was mandated to lead in the four regional projects, namely, the STI policy management training and capacity building, the SADC Women in Science, Engineering and Technology (SET) programme (in consultation with member states), hosting a workshop on intellectual property rights, and developing modalities for the implementation and launch of the 2009 SADC SET Week. Moreover, South Africa's bilateral relations in Africa were enhanced through the funding of joint bilateral projects with Kenya, while an expression of interest with Namibia was also finalised in 2010. South Africa has continued to provide active support to the strengthening of broader African-EU S&T partnerships through the DST's role as Vice Chair of the Joint Expert Group of the Science, Information Society and Space Partnership of the Joint Africa-EU Strategy.

The 2009/10 financial year also saw the long-awaited implementation of the Africa, Caribbean and Pacific (ACP) S&T Programme, jointly funded through the European Development Fund and the EU Development Cooperation Instrument for South Africa. Over the years, the DST has played a central role in the preparation of the Programme and has actively supported its implementation. South African organisations will participate in eight projects (with total funding of about R100 million) to be supported under the Programme. These programmes will target S&T capacity-building in ACP countries, for example, with the Southern African Research and Innovation Management Association, based in South Africa, implementing a project to strengthen research management capacities at universities and other organisations in Africa and the Caribbean.

The year 2009 was another excellent year for South Africa's S&T cooperation with the European Union. Building on the success of existing partnerships, such as South Africa's impressive participation in the EU's Seventh Framework Programme for Research and Technological Development (FP7), several new cooperation initiatives were launched. An important programme of events held in South Africa in September 2009 – organised in conjunction with the annual South Africa-EU Summit – illustrated this growth and the deepening of relations. Science and technology featured prominently on the South African-EU Summit agenda, including the launch of the South Africa-COST (Cooperation in Science and Technology) partnership agreement. COST is one of the EU's foremost international S&T networking programmes, and the partnership agreement will provide funding for short-term scientific exchange visits between South African and European researchers working on projects in the same domain. Several South African researchers have already leveraged this opportunity to build relations with strategic European partners.

PROGRAMME 3: INTERNATIONAL COOPERATION AND RESOURCES

FOR THE YEAR ENDED 31 MARCH 2010

It is important to note that the first participation by a South African organisation in the FP7 energy research programme was achieved through the inclusion of the South African National Energy Research Institute in a major carbon capture and storage research project. Much progress was also made in implementing an ambitious programme of space cooperation, including preparations for the extension of the European Geostationary Navigation Overlay Service – a global navigation satellite system platform – to Southern Africa. With the 2010 FIFA World Cup™ focusing the world's attention on South Africa in 2010, the socio-economic relevance and impact of South Africa-EU S&T cooperation was to be highlighted by the demonstration of the FP7 Stadium project during the tournament. This project seeks to improve public transport management for large events through intelligent transport systems. Two South African small and medium enterprises (SMEs) and the Council for Scientific and Industrial Research (CSIR) are key partners in this project.

South Africa's successful FP7 participation – which now comprises involvement in more than 100 projects and direct funding of more than R150 million allocated to South African researchers by the European Commission – is largely dominated by the participation of universities and publicly-funded research organisations. In order to broaden the range of participants, a special seminar was organised as part of the Summit programme, in partnership with the Swedish EU Presidency, to promote the participation of South African SMEs in the FP7 and other European cooperation initiatives. This initiative has already resulted in a significant increase in the number of South African SMEs involved in the FP7.

The innovation partnership with Finland through the Cooperation Framework on Innovation System between South Africa and Finland, and the South Africa-Finland Knowledge Partnership on ICT, saw the success of the Living Labs, a concept centred on open innovation in

communities. Highlights of this initiative include the Siyakhula Living Lab, which serves as a digital access node for the rural community of Dwesa in the Eastern Cape, and the Reconstruction Living Lab in Athlone in the Western Cape, which has become a space for the design, creation, dissemination and application of knowledge for the development of people in disadvantaged communities.

Various joint research projects were completed in 2009/10, including those within the India-Brazil-South Africa (IBSA) framework in areas such as nanotechnology, biotechnology, and polar and oceanographic research. Bilateral engagements in areas such as space, energy, ICT, advanced manufacturing, and science for sustainability have been completed or adapted to be in support of the Ten-Year Innovation Plan. Flagship projects falling in this joint research projects category include Biota South (aimed at capacity development in mapping biodiversity), and Inkaba ye Africa (a multidisciplinary project that surveys a cone-shaped sector of the Earth from the core to space, gathering data that will facilitate future planning). Discussions to establish the possible reconfiguration of these projects in support of both the Ten-Year Innovation Plan and the NRDS have been initiated. Calls for joint research were approved with countries such as Sweden, Poland, Japan, India and Brazil, while key bilateral cooperation joint meetings were held with Flanders, Norway, Germany, Brazil, Argentina and Taiwan with a view to aligning activities with the objectives of the Ten-Year Innovation Plan and NRDS. A new cooperation instrument worth R30m was concluded between Flanders and the DST. On the innovation side, an innovation instrument was concluded between TIA and the French innovation agency OSEO. TIA also signed a letter of intent with Spain's Centre for the Development of Industrial Technology, paving the way for a deeper collaboration with these countries on innovation management cooperation.

Other key highlights include the following:

- Implementation of international strategy: Among other ventures, bilateral STI relationships with Switzerland, Flanders, Germany, Norway, France, India, Algeria, Egypt, Mozambique, Kenya and Namibia were deepened, as was the IBSA partnership.
- In strengthening trilateral cooperation under IBSA, the three countries hosted nanotechnology schools in the thematic areas of energy, advanced materials, drug delivery and water purification. Over 200 researchers and scholars participated in the nano schools with the purpose of identifying joint projects, thereby promoting HCD in the IBSA programme.
- IBSA cooperation in the areas of oceanography and Antarctic research has been strengthened through exchange of technical and scientific experience aimed at enhancing global ocean research in the South Atlantic, Indian and Southern Oceans. The IBSA Ocean Alliance finalised an action plan that would address common challenges, such as the consequences of climate change. The three countries agreed to cooperate on a shared IBSA satellite, aimed at providing support in areas such as agriculture, education, energy, health, ICT, trade and transport.
- SADC STI leadership: At the 2009 SADC Summit, the DST secured SADC support for the Square Kilometre Array bid, and provided further leadership on policy discussions and activities, such as the SADC SET Week (in Mauritius).
- Enhanced South-South cooperation: The DST's leadership role in South-South cooperation was recognised in the successful hosting of a TWAS (Academy of Sciences of the Developing World) General Conference in Durban in October 2009. The four-day conference drew 400 scientists from 60 countries, making it one of the largest conferences ever held by TWAS. Fifty new members were elected to the Academy, including seven scientists from South Africa and nine women – both record figures in the Academy's history. In addition, the DST hosted a "Meet the Scientist" outreach activity during the conference – 600 learners from KwaZulu-Natal participated in this session, where TWAS fellows and young South African scientists were used as role models to encourage these learners to pursue careers in mathematics and science.
- Additional enhanced South-South cooperation: South Africa was elected vice-president of the Non-Aligned Movement Science and Technology Centre Bureau for the next four years, as well as the vice-chair of the Committee on Development Information, Science and Technology, one of the subcommittees of the Economic Commission for Africa.
- Increased funds leveraged: The DST successfully leveraged R178 million in official development assistance funding from partners like Canada, the EU, Finland, Germany, Japan and the United States of America, with a further R11 million leveraged for HCD initiatives from partners including Australia, Canada, France, Germany and Japan.
- AusAID, the Australian Government's overseas aid programme, provided financial and technical expertise to assist South Africa and Lesotho to expand the pool of future science centre managers, which is critical for the successful roll-out of the national plan for the establishment of additional science centres in South Africa. This project focuses on the training of science centre managers, and was designed in two phases. The first phase entailed the training of 20 prospective science centre managers in South Africa, in partnership with the Australian National University. The second phase saw the top seven students from the first phase studying in Australia towards a certificate qualification in science centre management.

PROGRAMME 3: INTERNATIONAL COOPERATION AND RESOURCES

FOR THE YEAR ENDED 31 MARCH 2010

- The Japan International Cooperation Agency partnered in the implementation of productivity training at the Tshwane University of Technology, so as to increase the employability level of S&T graduates. The initiative was implemented in partnership with Toyota SA, Nissan and Hitachi SA.
- USAID, the United States Agency for International Development, has approved three regional capacity development initiatives, amounting to approximately R1,2 million, for which the project implementation plans are being finalised for signature. These initiatives include the SADC IKS Workshop in the Seychelles, a potato culture project in Malawi, and capacity development for the SADC Risk and Vulnerability Atlas.
- Hitachi agreed to a scholarship programme for South African engineers working in the areas of electric power generation and transmission. The first two candidates returned from their training in Japan during January 2010, and the next candidates are scheduled to start training in September 2010.
- North-South Cooperation: The DST and the German Government are facilitating the implementation of the Southern Africa-Germany Technology Transfer Capacity Development Programme, under which technology transfer capacity development needs and interventions have been identified. Participating countries include Botswana, Namibia, and Zambia.

PROGRAMME 4: HUMAN CAPITAL AND KNOWLEDGE SYSTEMS

This Programme aims to develop and implement national programmes to produce knowledge, human capital and the associated infrastructure, equipment and public research services to sustain the NSI. It has the following three subprogrammes:

- Human Capital and Science Platforms.
- Emerging Research Areas and Infrastructure.
- Indigenous Knowledge Systems.

Service delivery objectives and indicators

4.1 Human Capital and Science Platforms

The Subprogramme: Human Capital and Science Platforms conceptualises, formulates and implements programmes that address the availability of human capital for STI, and produces new knowledge to build the knowledge resources of the country through science investment in areas of geographic advantage – the science missions, among others. The Subprogramme interfaces positively with the institutions that are key in the production of S&T knowledge and human resources for the NSI. Focus areas include astronomy, human palaeontology, research chairs at South African universities, CoEs and a postdoctoral fellowship programme.

Recent outputs and highlights

(a) Youth into Science initiatives

The DST pursues a number of interventions that are aimed at bringing more youth into science-based careers, and at the same time promoting representation and recognition of designated groups in the SET sector. NSW celebrated its 10th year during the period under review. The event was a resounding success, attracting 204 950 participants (exceeding the anticipated target of 200 000). The start of the focus week was marked by a national launch led by the Minister of Science and Technology in Kimberley in

the Northern Cape, with about 3 500 learners from the province. Learners were encouraged to undertake science-based tertiary studies through exciting science activities, exhibitions, and learner and teacher support materials during the NSW in August 2009. This launch was unique since it doubled as a 10-year celebration of the NSW, and also took place in a province of international significance in astronomy during IYA. Countrywide celebrations of the NSW were made possible by the involvement of more than 70 organisers or grant-holders, which is a record number since the inception of the initiative.

Furthermore, South Africa (Pretoria) through the South African Mathematics Foundation, hosted the Pan African Mathematics Olympiad in April 2009. This DST-funded event saw a record number of 12 countries entering and participating. South Africa was the second overall winner. The South African Agency for Science and Technology Advancement received funds to ensure that at least 35 learners at each of the 500 Dinaledi Schools took part in the Olympiad free of charge.

(b) Support for SET students

In its quest to bring unemployed SET graduates into the mainstream economy the Department placed 320 unemployed SET graduates in SET-related institutions. Under the DST/NRF internship programme a total of 160 interns commenced internships at various participating institutions throughout the country to develop their skills and competencies under the guidance and supervision of host mentors. The internship programme saw an increase in the number of institutions willing to host and mentor interns, from 22 in the 2008/09 financial year to over 40 in 2009/10. This increase is attributable partly to collaboration with the Department of Trade and Industry, which assisted in opening access to more industrial host institutions. The National Youth Service Programme, which was initiated in October 2003 as a special presidential programme to address high levels of youth unemployment by creating

PROGRAMME 4: HUMAN CAPITAL AND KNOWLEDGE SYSTEMS

FOR THE YEAR ENDED 31 MARCH 2010

opportunities for voluntary service and skills development, saw a total of 160 unemployed SET graduates deployed at 22 science centres countrywide.

The DST's comprehensive bursary scheme, which offers free-standing bursaries directly to students through the research offices of all higher education institutions (HEIs) was launched in 2007. This bursary scheme has supported an average of 270 students at honours or equivalent level per year for the past three years. The programme also enjoys an equitable spread of students across institutions, as well as gender and racial lines. In the 2009/10 financial year, the scheme supported 287 students at honours or honours equivalent level (87% black, 23% white, 58% female and 42% male). At masters level, a total of 140 new and continuing students (74% black and 55% female) were supported.

Furthermore, the DST provided support to a number of international HCD programmes, with a total of 94 postgraduate students supported over the review period. This includes 33 students supported through F'SATIE (the French South African Institute for Electronic Engineering, a collaborative programme with the French for engineering students at universities of technology), seven students at the Africa Institute for Mathematical Sciences, 52 postgraduate students in the Inkaba ye Africa project (a German and South African earth science project aimed at understanding the inner core of the Earth), two South African postdoctoral fellows placed at Emory University and five South African researchers awarded research expertise training and short-term exchange visits to Emory). A number of South African researchers visited Emory University to explore collaborations on a sandwich doctoral programme between South African universities and Emory.

The Postdoctoral Fellowship Programme supported a total of 43 postdoctoral fellows (63% white, 37% black, 63% female and 37% male) at higher education institutions.

The Postdoctoral Research Forum was launched in November 2009 with approximately 160 participants, comprising postdoctoral fellows funded under different National Research Foundation (NRF) programmes, and a limited number of non-NRF-funded fellows. The Forum's aim is to enhance a culture of postdoctoral research in the country, and to present an opportunity for fellows to network and collaborate by establishing a national postdoctoral forum website, among other things. It is only through interactions such as these that the racial profile of the programme can improve. The Postdoctoral Research Forum website was launched on the same day.

(c) The South African Research Chairs Initiative

SARChI is proving to be an effective instrument for developing human capital. During the reporting year, the number of research chairs increased from 72 to 82 with the appointment and public announcement of 10 new research chairs in August 2009. The number of students and postdoctoral fellows supported under the research chair grants grew from 392 in 2007 to 514 in 2009. In addition to students supported through SARChI grants, a number of students with other sources of funding are supervised and mentored by research chairs. The number of these students grew from 252 in 2007 to 397 in 2009/10, bringing the total number of students supervised and mentored by research chairs to 644 and 911 in 2007 and 2009, respectively. Also encouraging is the fact that the research chairs supervised and mentored an average of more than 10 students per operating research chair in 2009, including the students funded from other sources. The number of publications in peer-reviewed journals increased from 162 in the 2008/09 financial year to 477 in 2009/10. During the same period, the number of books published by research chairs increased from four to 10, and the number of book chapters increased from 13 to 62.

In an initiative aimed at strengthening collaboration between SARChI and its model initiative in Canada (the Canadian Research Chairs Programme), an eight-member South African delegation undertook a short study visit to Canada. The trip was fully funded by the Canadian International Development Agency. The South African delegation comprised representatives of the higher education sector, the NRF and government. The lessons learnt will certainly enhance SARChI management at both agency and HEI level.

(d) *Centres of excellence*

The CoE programme is an instrument which has been very successful in marshalling all the available human capital, infrastructure, and financial resources into fostering focused multidisciplinary and interdisciplinary research projects that are locally relevant and internationally competitive. There are currently seven operating CoEs. The process of establishing an eighth CoE, in Climate Change, is almost complete, and the establishment of the Indigenous Knowledge Systems CoE is in progress. The CoE programme underwent its first review process, since most CoEs had completed their first five-year funding cycle. The review was highly complimentary about the achievements of the programme, particularly in respect of their research contribution in the areas of health, biodiversity, and commercial competitiveness. As far as health is concerned, inroads have been made by two CoE which cover many aspects of HIV/Aids and tuberculosis and their co-interactions. These CoEs are making a key contribution in delivering better approaches to the prevention, diagnosis and treatment of HIV/Aids and TB to help combat the pandemics. In Tree Health Biology, the relevant CoE has excelled in the development of new knowledge on problems affecting native trees, and the identification and characterisation of pests and pathogens. The greatest contribution of this CoE to date has been the discovery of a wide diversity of plant-associated

insects and microbes. The unique focus of this CoE on native species within the broader context of forestry and natural woodlands gives it a competitive national and global edge.

Leveraging the CoE funding for extensive internationally-collaborative and recognised cutting-edge research has been one of successes of the CoE programme highlighted by the review panel. The total number of postgraduate students supervised while concomitantly receiving grant-holder-linked financial support under the CoE programme was over 370.

(e) *African Origins Platform*

Palaeontology is an area in which South Africa enjoys a geographic advantage and researchers continue to make new fossil discoveries considered to be of great significance to the study of human origins at the Cradle of Humankind World Heritage site. As a result of the collaborative efforts of more than 50 South African and other scientists, a number of discoveries have been made in a relatively short time.

On 11 November 2009, under the DST-funded African Origins Platform, researchers at the University of the Witwatersrand's Bernard Price Institute of Palaeontology announced the discovery of a new species of dinosaur. Scientists also described and named a new species of hominid, *Australopithecus sediba*, almost two million years old, which was discovered in the Cradle of Humankind World Heritage Site in 2008. "Sediba" means "wellspring" in Sesotho, and the discoverers believe the species may have been the wellspring for the genus Homo. The Deputy President was among the speakers at the unveiling of these well-preserved fossils of a boy and an adult woman.

The event attracted local and international researchers and the media. The historic finds were announced in two articles in the prestigious journal *Science*. The discoveries are expected to yield up to 40 publications. More than 60

PROGRAMME 4: HUMAN CAPITAL AND KNOWLEDGE SYSTEMS

FOR THE YEAR ENDED 31 MARCH 2010

local and foreign researchers were involved in uncovering the fossils. With the first bone spotted by a nine-year-old, and one of the fossils being that of a boy, the Palaeontological Scientific Trust launched a competition to name the child fossil to promote awareness of palaeontology among the youth.

(f) The African Coelacanth Ecosystem Programme

The African Coelacanth Ecosystem Programme (ACEP), a joint project between the DST and the Department of Environmental Affairs, now forms the South African component of the five-year Agulhas and Somali Current Large Marine Ecosystems (ASCLME) Project, funded by the Global Environment Facility and implemented by the United Nations Development Programme. The goal of the project is to ensure the long-term sustainability of the living resources of the ASCLME region by introducing an ecosystem-based approach to management. The Agulhas and Somali currents have a major influence on the societies and economies of the Western Indian Ocean region, but there are large gaps in our understanding of their oceanographic processes, biodiversity and other fundamentals. For example, scientists estimate that less than 50% of marine species off the east coast of Africa have been described. ACEP has played a leading role in research on the Agulhas current as well as in coordinating and participating in the research cruises in the rest of the region. ASCLME provides an extensive and wide-ranging research effort that will raise the benchmark of knowledge on the West Indian Ocean region. Data that is collected by ASCLME is also made available to scientists within the region.

(g) The South African Institute for Aquatic Biodiversity

The DST made funding available to ACEP through the South African Institute for Aquatic Biodiversity for the acquisition of a remotely-operated vehicle (ROV) and

a coastal research platform (large ski-boat) from which to operate the ROV. The new 13 m research vessel, named uKwabelana (meaning "to share"), was officially launched on 25 March 2010 together with ACEP II, ASCLME and the Elwandle node of the South African Environmental Observation Network. ACEP research yielded 16 peer-reviewed articles, with six currently submitted for publication. 20 postgraduate students and seven postdoctoral fellows were supported through the ACEP programme.

The South African National Antarctic Programme (SANAP) supported 34 research grants, 47 postgraduate bursaries, and three postdoctoral fellowships in 2009/10. During the 50th anniversary Antarctic Treaty Summit, a SANAP researcher and Director of the CoE in Invasion Biology became the first recipient of an international prize, the Martha Muse Prize for Antarctic Policy and Research.

(h) Women in Science Awards

The Women in Science Awards profile women scientists and researchers in order to increase the number of women in science and improve their access to research professions. The awards event took place on 21 August 2009, with the Minister of Science and Technology and the Minister of Higher Education and Training participating in the programme. Two new categories of awards were introduced (the Tata scholarship and Indigenous Knowledge Systems awards). The quality of applications was exceptional. The overall winner of the 2009 Women in Science Awards (in the Distinguished Women Scientist category) was further honoured for her achievements by the African Union under the African Union Scientific Awards Programme.

4.2 Emerging Research Areas and Infrastructure

This Subprogramme steers the advancement of novel and cross-cutting research areas and the establishment of

world-class research infrastructure in the NSI. It drives the strategic direction to synergise opportunities for emerging research areas, infrastructure, large-scale facilities and the development of critical mass. Complementary initiatives among stakeholders in the public sector are facilitated to develop a competitive research nucleus.

Recent outputs and highlights

(a) Nanotechnology development and innovation

The DST continued its efforts to develop emerging research areas (nanotechnology, photonics and synthetic biology) with the potential to improve quality of life. This includes the implementation of the National Nanotechnology Strategy. In addition to the continued support of existing programmes to advance the realisation of the strategic objectives, 2009/10 saw the finalisation and approval of the Nanotechnology Public Engagement Plan, the implementation of which commenced during the reporting year. The Nanotechnology Research Plan, which focuses on nanotechnology research in the country for the delivery of strategic goals, was also finalised and distributed nationally at workshops. The plan is expected to guide the development of research strategies by the different research institutions.

Significant contributions to this development also included the establishment of SARChI, the nanotechnology flagship programme and the nanotechnology innovation centres (NICs). Advantage was taken of existing international collaboration agreements to access knowledge developed outside South Africa in order to advance HCD in the country. As part of the implementation of the National Nanotechnology Strategy, and in particular to strengthen the nanoscience knowledge base, the DST successfully hosted the country's first International NanoSchool, which attracted about 150 students and lecturers from eight different countries.

Through the NICs, significant progress in building capacity for nanotechnology innovation is being made. Prototype products are in the process of being developed, e.g. the point of care diagnostic prototype devices developed by the Mintek NIC. These are simple, robust test kits that can be used by individuals at home to diagnose diseases such as tuberculosis and malaria. They are currently being optimised using real samples. In addition, two new invention disclosures have been submitted by the CSIR NIC. Moreover, the development of a drug-delivery system for TB drugs is progressing well, and a patent on the technology for the encapsulation of the drugs in a nanopolymer has already been filed. The project promises to increase the efficacy of existing TB drugs significantly, thus improving the management of the disease.

In addition to the Nanotechnology Equipment Programme, which has placed advanced research equipment at various research institutions, the Department has helped build a clean room facility at the Mintek NIC for the production of credible outputs by the centre. This is essential for the upscaling of nanotechnology research outputs. In addition, a world-class P3 biosafety facility has also been established at the CSIR, providing an environment that is particularly suitable for HIV and TB research. The Department has also worked closely with the NRF to establish the High Resolution Transmission Electron Microscopy (HRTEM) Centre at Nelson Mandela Metropolitan University. The machine has been procured and the process to install it is under way. These facilities are essential to put nanotechnology research in the country on a par with the rest of the world, and will help to make South Africa one of the preferred destinations for nanotechnology research.

(b) National Photonics and Synthetic Biology Strategies

The National Photonics Strategy was approved in the reporting year, paving the way for the commencement of the development of this area of science in 2010/11.

PROGRAMME 4: HUMAN CAPITAL AND KNOWLEDGE SYSTEMS

FOR THE YEAR ENDED 31 MARCH 2010

The development of synthetic biology as an emerging research area also progressed after the presentation of the draft strategy to the DST's Executive Committee. It is envisaged that the strategy will be finalised in the 2010/11 financial year.

(c) National Equipment Programme and National Nanotechnology Equipment Programme

These programmes are managed by the NRF and aim to provide the research community with state-of-the-art research equipment. They have been running for the past three years and in 2010/11 will be subjected to an evaluation study to assess their impact on RDI in South Africa. As at the end of the 2009/10 year approximately R300 million had been invested in this programme by the DST. This includes investments made in the establishment of the HRTEM Centre, which will leverage value through the development of nanotechnology and specialised skills. R25 million was allocated to the HRTEM infrastructure in the 2009/10 financial year. Postgraduate students and postdoctoral researchers will be trained at the centre. It is estimated that, in the first 10 years, at least 48 MSc and 27 PhD students will graduate, and that at least 117 publications will be produced. Students and staff from other institutions and private industry will also be trained.

(d) National Strategic Infrastructure Programme

The National Strategic Infrastructure Programme seeks to address demand for strategic infrastructure aligned to the grand challenges, the S&T missions, and infrastructure at the interface of R&D and innovation. This programme has been active for two years, and R48 million has been spent to support proposals from the research community. Specific interventions that have been provided through this programme include the following:

- Support to Southern Oceans Observatory for the purchase of sampling equipment for the new research vessel that will replace the SA Agulhas.

- Support for Pelchem (Pty) Ltd to set up a multipurpose fluorination pilot plant for product development and qualification by the market, and for fluorochemical technology generation (patents) with HEIs led by the two South African fluorochemical chairs. The pilot facility will also be used for higher-level fluorochemical skills development, and the generation of engineering and other data for techno-economic evaluations and for commercial design risk.

(e) National Facilities Funding Programme

The initiative is aimed at facilitating the refurbishment and upgrading of the national facilities managed by the NRF. This is a new initiative and to date R35 million has been allocated for it. A key intervention was the provision of funding to the National Zoological Gardens in order for it to regain its accreditation with the International Zoological Council.

(f) Centre for High Performance Computing

The CHPC, one of the key components of the national cyberinfrastructure system, is a DST-funded initiative providing supercomputing capability for RDI to the South African research community and industry. The CHPC's key activities include flagship projects, HCD, advanced computer engineering and industrial development projects.

During the reporting year, Phase II of the establishment of the CHPC was completed. A hybrid supercomputer was installed in September 2009, bringing the total computational capacity of the CHPC to 30 teraflops, and making it the fastest supercomputer in Africa. The CHPC has provided a platform for the development of the very large database (VLDB) which will be the third major component of the cyberinfrastructure initiative (the other two components being the CHPC and the South African National Research Network). The VLDB will be built on the existing storage capacity at the CHPC which boasts 0,5 petabytes. It is anticipated that the storage capacity will be increased to three petabytes over three years.

The Blue Gene 4 Africa was integrated into the existing cluster model (e1350 cluster) and uses the existing storage capacity, leveraging from the existing high-performance computing infrastructure at the CHPC. The Blue Gene Supercomputer was donated to sub-Saharan Africa by IBM. A consultative workshop was held in 2010 to develop a research plan and roadmap for the roll-out of the Blue Gene.

(g) South African National Research Network

The DST's South African National Research Network (SANReN) initiative, implemented by the CSIR's Meraka Institute, involves the roll-out of a high-speed broadband network to all academic and research institutions in the country. A highlight in 2009/10 was the awarding to SANReN of a private electronic communications network licence exemption under the Electronic Communications Act, 2005. This licence exemption allows SANReN to build its own network for private use with the condition that any spare capacity not be sold or leased for commercial use. A major achievement for SANReN was the successful completion of the national network, which connects all major metros in the country with a 10 gigabyte per second link.

4.3 Indigenous Knowledge Systems

The Subprogramme: Indigenous Knowledge Systems focuses on the development of indigenous knowledge and its integration into the NSI through the development and implementation of policy and undertaking of strategic projects. It works through networks of science councils, universities and civil society organisations. Museums and science centres have also begun to play roles in the interfacing of indigenous knowledge through public awareness campaigns.

Recent outputs and highlights

Efforts to protect indigenous knowledge through conventional intellectual property law have been made by the proposed amendments to the Intellectual Property Law Amendment Bill. However, there still remains a need for a holistic and comprehensive protection system. The development of sui generis legislation will help to protect indigenous knowledge relating to biodiversity, but South Africa still requires increased public awareness, driven by communities of practice, about the value of intellectual property in rural communities.

(a) The 3rd SADC workshop on IKS policy development and regional cooperation

The 3rd SADC workshop on IKS policy development and regional cooperation was hosted from 22 to 24 June 2009 in the Republic of Seychelles. The primary aim of the 3rd workshop was the development of a Plan of Action (2009-2010) for the establishment of a regional framework for the protection of IKS. The workshop was attended by delegates from Botswana, Namibia, South Africa, Seychelles and Zambia, including public servants, holders and practitioners of indigenous knowledge, academics, researchers and civil society. The South African delegation was accompanied by delegates from the North West University IKS Centre and the IKS Chair at the University of KwaZulu-Natal. One of the recommendations emerging from the workshop was to commission South Africa to develop a draft framework on a sui generis system for the protection of IKS.

(b) The 2009 IKS Expo

The DST, in partnership with the Office of the Premier of Limpopo, hosted the 2009 IKS Expo from 3 to 6 November 2009 in Polokwane. The main purpose of the Expo was to bring innovators and crafters together to demonstrate the economic value of products coming from indigenous knowledge and technology, and to showcase the competitiveness of these products/technologies. More

than 20 stakeholders had stalls at the exhibition, and approximately 2 000 delegates from various provincial departments, science councils and non-governmental organisations attended. Each day 20 learners from schools in the Vhembe District attended both the exhibition and the workshop. Interviews providing media coverage on the Expo were on number of community radios and posted in the *Sowetan*.

(c) South African Social Attitudes Survey relating to IKS

During the period under review, the National Indigenous Knowledge Systems Office (NIKSO) commissioned the Human Sciences Research Council (HSRC) Centre for Socio-Economic Indicators to conduct a national representative study on issues pertaining to indigenous knowledge systems (IKS) among residents 16 years and older in South Africa. The survey assisted in identifying areas where awareness of IKS was low, as well as general attitudes towards IKS. It is anticipated that the survey will also shed light on the relationship between IKS awareness and knowledge and certain demographic characteristics.

(d) Accreditation and certification of indigenous knowledge holders and practitioners

The DST has been mandated to work on the development of a framework/model for the accreditation and certification of indigenous knowledge (IK) holders and practitioners. To this effect, a number of consultative meetings have been held. NIKSO has collaborated with the South African Qualifications Authority (SAQA) and the CoE on Indigenous Knowledge Studies to develop the framework in partnership with various communities of practice and trust within IK communities. A concept paper and work plan have been developed to guide the development of the framework. The CoE will partner with the DST and SAQA to implement this initiative.

(e) Centre of Excellence on IKS Studies

The IKS CoE links North West University (Mafikeng Campus), which coordinates the CoE, the University of Limpopo and the University of Venda. The CoE focuses on developing, preserving and using local knowledge for research and skills development. It will work closely with local communities and is dedicated to facilitating collaboration between HEIs, NGOs and IK holders and practitioners. It aims to develop an integrated IKS curriculum and programmes to produce human capital. Key to its deliverables was the development and registration of the Bachelor of Indigenous Knowledge Systems (BIKS), which was achieved in the current reporting period. This is a four year-degree programme that will cover a range of streams, mainly on STI, and the uptake of students into the BIKS programme will commence at three universities in 2011.

(f) IKS bioprospecting and product development platform

NIKSO has established the IKS Bioprospecting and Product Development Platform, which is aimed at promoting and coordinating scientific research innovations by using South Africa's plant resources and related indigenous or traditional knowledge to produce commercial products. The platform consortium identified three focus areas (African traditional medicines, cosmeceuticals and nutraceuticals) for bioprospecting based on indigenous knowledge. The NIKSO-funded pilot studies resulted in the identification of 15 lead product formulations that display positive proof of concept. For example, a project proposal, including community consultations and legal documentation, has been developed on research into the use of Amarula to treat diabetes mellitus. The cosmeceuticals consortium identified 11 lead formulations (extracts), including eight leads for skin-care, two leads for oral care and one lead for male pattern baldness. The pilot study on nutraceuticals has identified a three

traditional food preparations for product development, i.e. amaranthus or imbuya (which has a Vitamin K content superior to commercial cabbage), umsobo and nutshade. Two new projects have been identified for innovation intervention by NIKSO. The North West Moritela Tshwene Tea Project, with ring-fenced funding from the NRF, is coordinated via the bioprospecting framework. The second project involves an indigenous plant extract that displays antibiotic and sun-block properties.

(g) *The National Recordal System and National IKS Management System*

The Biotechnology Grand Challenge proposes an ethnobiological approach to elicit the indigenous knowledge needed to guide sample collection. IK holders are able to assist with the identification of species, as well as their location, the proper time of collection, the preparation method, the form of administration, and the required dosage for a desired effect.

The DST Executive Committee approved the NRS concept on 1 March 2010, and a phased approach in developing the NRS, including the IKS centres, is envisaged. The National Recordal System (NRS) is a central strategic resource in the implementation of IKS policy and will assist in the collection, documentation, storage and dissemination of indigenous knowledge as a national heritage. The NRS includes the National IKS Management System (NIKMAS) as the electronic infrastructure to which the IKS documentation centres will be connected. The work on NIKMAS will include the establishment of a basic portal, conducting stress tests at various levels of operations, and verifying end-user viability of the IKS website. The NRS principal contract signed in 2008 took into account the development of a network architecture that will hold the entire recordal system, the development of a web-based database to provide data management for a comprehensive IK biodiversity database, and on investigation into the use of a machine translation system

for the NRS. The principle contract considered only the development of an electronic database system and not the development and roll-out of IKS documentation centres, which are needed to serve as IK hubs and to contribute to the recording and documentation that will feed into the database.

(h) *Establishment of IKS documentation centres*

As indicated above, the IKS documentation centres will be part of the NRS. They will function as community entry points for the collection, documentation, storage and dissemination of IKS in selected communities. The University of Zululand was identified as the lead institution for piloting this concept. As a result of a number of meetings and workshops, an agreement between the Tembe Traditional Council (consisting of the Nkandla, Mhlabuyalingana and Mkhwanazi communities) and the University of Zululand has been drafted. A model of centres and the elements of a business plan and an operational plan have been developed by the Innovation Lab Indigenous Knowledge System Centre.

PROGRAMME 5: **SOCIO-ECONOMIC PARTNERSHIPS**

This Programme aims to provide policy, strategy and direction-setting support for R&D-led growth. Its strategic focus is informed by government's Micro-Economic Reform Strategy, the National Industrial Policy Framework, the Ten-Year Innovation Plan, the National Framework for Sustainable Development and the Accelerated and Shared Growth Initiative for South Africa.

Interventions are aimed at promoting growth in public and private investments in R&D, advancing national growth objectives through sustainable value-added exploitation of the natural resources and by supporting the greater use of ICT applications in government and society. The national objectives of growing the base of small, medium and micro enterprises (SMMEs), black-owned businesses (particularly engineering companies), job creation and poverty reduction are key considerations in the design and implementation of interventions. The Programme has the following three subprogrammes:

- Science and Technology for Economic Impact.
- Science and Technology for Social Impact.
- Science and Technology Investments.

Service delivery objectives and indicators

5.1 Science and Technology for Economic Impact

The Subprogramme: Science and Technology for Economic Impact strengthens the achievement of government's strategic economic growth and development objectives through the following three major interventions:

- Supporting the development of cutting-edge technology or knowledge-based industries in new growth areas in the technology mission areas of advanced manufacturing metals beneficiation, information and communications technologies, and environmental goods and services, through targeted RDI programmes.

- Supporting an increase in the value of public sector procurement contracts that can be accessed by local technology-intensive companies through a focused technology localisation effort.
- Supporting the development of key priority industrial sectors by consolidating and enhancing current research development innovation and technology transfer efforts in the NSI.

Recent outputs and highlights

(a) Wireless mesh networks

The roll-out of rural broadband connectivity using a wireless mesh network progressed well in 2009/10, with mesh network equipment installed in more than 150 schools in the Nkangala District Municipality in Mpumalanga and parts of Sekhukhune District Municipality in Limpopo. In Nkangala, 76 schools had already been connected to the Internet by the end of March 2010. Nineteen local entrepreneurs (village operators) have already completed the first phase of a two-phase business and technical training programme, which will enable them to run their own business by operating, supporting and maintaining the network.

(b) The Global Change Grand Challenge

Global change was identified as a grand challenge in the Ten-Year Innovation Plan. In the reporting year the 10-year Global Change Research Plan was finalised, as were the implementation arrangements for the research plan. The first meeting of the Global Change Investment Council, chaired by the Director-General of Science and Technology, will take place on 13 April 2010. Phase I of the Risk and Vulnerability Atlas for South Africa is near completion, and key outputs for the year included version I of the electronic spatial database system and a hard copy Atlas. Beta-testing or demonstration of version I of the electronic database system is currently under way, while the

hard copy Atlas has been produced and will be published in May 2010. There is a great deal of international interest, particularly from the Group on Earth Observations.

(c) Towards a local fluorochemicals industry

A key achievement was the finalisation of funding support for a multi-purpose fluorination plant, an essential part of the long-term programme to build the fluorochemicals industry in South Africa. Moreover, the Fluorochemicals Expansion Initiative supported four postdoctoral fellows and 31 science and engineering students (seven doctoral, 12 masters and 12 undergraduate). The initiative was part of the implementation of the AMTS.

(d) Towards a local titanium industry

Formalisation of the Titanium CoC is in progress and discussions on governance and operational models are under way. Titanium R&D projects under the CoC are on track, with good progress in the primary production of titanium powder, powder metallurgy, investment casting and additive manufacturing. There are five potential patents (three on the primary titanium process and two on the powder metallurgy work). To date, 60 students have been involved in the programme (24% doctoral, 30% masters, 20% Hons/BTech and 26% undergraduate).

(e) Strategic technology partnerships

The technology cooperation programme that DST has with Airbus on natural fibre composites for the interior panels of aircraft, under the Natural Fibre Reinforced Biocomposites project, part of the AMTS portfolio, has demonstrated excellent progress. The final set of samples, which have lower weight and smoke-resistant properties, has been sent to Airbus for testing.

(f) Advanced Metals Initiative

The DST has also achieved major successes with R&D activities supported under the Advanced Metals Initiative (AMI). The Precious Metal Development Network led

by Mintek has successfully commissioned the world's first semi-commercial gold catalyst plant supplying gold catalysts to end-users. This project is being extended to the development of platinum group metal catalysts in collaboration with Sasol, with the intention of producing precious metal catalysts on a semi-commercial scale.

The AMI also supports the new metals initiative, where the Nuclear Energy Council of South Africa (Necsa) is developing a technology to add value by producing nuclear grade zirconium metal by means of an innovative plasma technology process. South Africa supplies 30% of the world's zircon in its unbeneficiated form. Zircon sells at USD800 per ton and nuclear grade zircon metal sells at USD23 000 per ton. Necsa has already filed three patents.

(g) Technology localisation

The DST is also contributing to the government's Competitive Supplier Development Programme, which aims to increase the participation of local companies in major procurement opportunities from large state-owned enterprises such as Eskom and Transnet. The DST contribution is packaged in the Technology Localisation Programme. Technology benchmarking was conducted for 117 foundry companies, with the support of the United Nations Industrial Development Organization and the National Foundry Technology Network, to identify technology gaps that had to be addressed to make the foundries globally competitive. The foundry industry is key in the supply chain and localisation of components related to the infrastructure build programmes of Eskom and Transnet. Of the companies benchmarked, 28 were selected as the most technology-ready to receive technology assistance packages from the Department. The CSIR and Mintek have been contracted to assist with the implementation of the assistance packages. The DST has provided R26 million for technology upgrade support for these companies.

PROGRAMME 5: SOCIO-ECONOMIC PARTNERSHIPS

FOR THE YEAR ENDED 31 MARCH 2010

(h) R&D in information and communications technologies

DST has a ring-fenced programme of work with the CSIR on R&D in the ICT mission-area of the NRDS. Some of the recent successes include applications in mobile technologies for supporting mathematics and science learning, human language technologies, remote sensing, earth observation, and technologies that enable disabled and older persons to live more independently. There is, for example, the Dr Math mobile mathematics tutoring system, which runs on the popular instant-messaging service MXit. It is a well publicised service and more than 6 000 learners subscribe to it. In the first four months of 2010 alone, more than 1 000 learners subscribed to Dr Math. Using volunteers from the University of Pretoria, the service offers real-time mathematics support at a fraction of the cost of a text message. The Meraka Institute's "ability-based training" demonstrator, completed in March 2010, allows for adaptation of the user interface and re-sequences the content elements according to a user's ability, learning style, perceptual learning preferences and literacy.

5.2 Science and Technology for Social Impact

The objective of the Subprogramme: Science and Technology for Social Impact is to introduce and promote innovative technology and management systems to support the creation of sustainable jobs and wealth opportunities in areas of deprivation and, with a focus on sustainability, to contribute to issues of human settlement. The Subprogramme focuses on technologies and systems that are mature, but do not have widespread application, and are seen to have the potential to achieve government's broad objectives.

Recent outputs and highlights

(a) Community-University Partnership Programme

The DST recognises that access to both knowledge and experts who can serve as change agents is fundamental to assisting communities to introduce and use innovative solutions for the challenges they face. Programme 5 is currently piloting the Community-University Partnership Programme (CUPP) at four rurally-based universities (i.e. the Universities of Fort Hare, Limpopo, Zululand and Venda) over a period of three years (2009/10 to 2011/12). CUPP is a key outcome of the Human and Social Dynamics Grand Challenge and seeks to act as a catalyst for solving problems, facilitating development, sharing lessons, generating knowledge and adopting new techniques and innovations. Universities based in poor and underdeveloped rural and urban communities can play a pivotal role in helping residents to contribute information to decision-making, as well as contributing to a better understanding of the issues, choices and concerns in the community.

CUPP will –

- identify the most effective partnership models, in consultation with community partners;
- develop mechanisms for personal contact with community partners to build effective, reciprocal relationships;
- develop a series of issue papers to serve as the basis for dialogue;
- produce case studies of successful partnerships;
- build community capacity in areas including sustainability, social and economic development and civic engagement; and
- enhance research partnerships, innovation and knowledge exchange (to make South Africa more competitive internationally).

(b) Integrated Planning and Development Modelling (IPDM) Project

Integrated infrastructure planning is essential for accelerating the modernisation of the South African economy from a resource-based economy to one that is based on knowledge. The DST, with partners, has developed an e-based toolkit to enhance integrated planning and accelerate community infrastructure planning and service delivery. The Toolkit for Integrated Planning (TIP) provides capabilities to integrate the profiling of past and current development needs and to simulate future development needs. In its current form, the tool consists of two main components, namely –

- a profiler, which collects cross-sectoral spatial and temporal information on current patterns and trends represented at various scales in the form of interactive maps and/or quantitative tables;
- a simulator, which is a set of illustrative urban growth scenarios formulated for the purpose of demonstrating the simulation capability that is currently being developed, and includes a set of illustrative indicators and indices to measure the impact of these scenarios.

General users in government and planning practice are currently accessing the TIP via a web-based user portal. The IPDM project is successfully demonstrating and illustrating the content and capabilities of TIP to potential users, while the coverage of the existing regional-scale profiler is being expanded to include the entire country. The current capabilities of the platform are being deepened to enable the simulation of outcomes and impacts for metropolitan municipalities. In addition, the housing and transport demand surveys are being extended to develop housing and transport demand typologies for low-income settlements, which will inform the development of a national housing and transport demand wall chart.

Although Phase 1B of the IPDM project is scheduled to end only at the end of March 2011, there are already early indications that the uptake, use and application of the information and modelling platform (including the TIP portal) among district and metropolitan municipalities have been positive. This has been achieved through a range of dissemination, technology transfer and capacity-building initiatives.

(c) Sustainable livelihoods

Initiatives geared at job creation sustained 604 community-based, full-time jobs benefiting mainly women and the youth. These are jobs in community-based technology demonstration projects for essential oils, aquaculture and agroprocessing in support of the bioeconomy. Some of the initiatives (e.g. the Hondeklip Bay abalone grow-out) have demonstrated commercial viability to develop into enterprises that will create additional sustainable jobs in the near future.

The DST supports a number of technology transfer initiatives to address the challenges of poverty reduction from the perspective of using science and technology for creating sustainable livelihoods. The interventions are not all at the cutting-edge of competitive technologies. Some might be new to the global market, or new to South Africa or to emerging black entrepreneurs. The key objective is to make use of existing (new or mature) technologies to lift as many people out of poverty with new economic activities as possible.

The technologies are packaged under a Sustainable Livelihoods banner, and have been reformulated as support to the DST's work on the bioeconomy, linked to the DST's Ten-Year Innovation Plan. The initiatives are organised under three thrust areas, i.e. demonstration agronomy science (including bioprospecting in essential oils and scientifically-proven indigenous medicinal plants), aquaculture, and the diversified post-harvest beneficiation of natural resources.

PROGRAMME 5: SOCIO-ECONOMIC PARTNERSHIPS

FOR THE YEAR ENDED 31 MARCH 2010

The Sustainable Livelihoods programme is incubating SMMEs in essential oils, indigenous medicinal plants and aquaculture. In reformulating its activities under the bioeconomy banner, Sustainable Livelihoods is undertaking demonstration agronomy science activities in the identified areas, and these are projected to increase in 2010/11 and beyond.

(d) Essential oils

Of the eight established essential oils sites, six essential oil SMMEs are being incubated. These are Elandskraal and

Hi-Hanyile in Limpopo, Genadenberg in the Western Cape, KwaNobuhle in the Eastern Cape, and Onseepkans and Pella in the Northern Cape. Smaller sites in KwaZulu-Natal are located at Isambane, Kwangwanase, Kwasa and Owethusonke. Letsemeng in the Free State is an essential oil and a medicinal plant site, with peppermint and Sutherlandia being grown. The essential oils cluster supports 141 full-time jobs and 128 seasonal jobs, with 48% of these held by women and 24% by young people. A total of 197 kg of essential oil was sold at a value of R200 105. Sales from projects are summarised below.

Product	Measurement	Total
BPI Lippia javanica oil	Mass of oil	22kg
	Price per kg of oil	R300
	Sales	R7 466
250 g mosquito-repellent candles, each containing 5 g of BPI Lippia javanica and 5 g of lemongrass essential oil	Mass of oil	23 kg
	Sales	R27 608
Rose geranium oil	Mass of oil	152 kg
	Price per kg of oil	R969
	Sales	R165 031
Total mass (kg)		197
Total sales		R200 105

(e) Indigenous medicinal plants

There are seven medicinal plant sites, one of which is an expansion site, while the others are demonstration agronomy sites. The expansion to 5,5 ha was successfully completed at Mashoboto, in Mpumalanga.

Medicinal plant demonstration agronomy sites that were supported are Tsolwana and Senqu in the Eastern Cape; Nourivier and Witdraai in the Northern Cape; and Letsemeng and Seotlong in the Free State. The pilot site in Sibonelo, KwaZulu-Natal, involved the propagation

of African Ginger as a medicinal plant. However, the regulations and conditions governing the land that was used by the project did not allow the establishment of ablation and processing facilities. After many unsuccessful attempts to secure an alternative site, it was decided to exit the project.

The medicinal cluster supports 35 full-time and 22 seasonal jobs. Women account for 39% of the workforce, and youth for 7%.

(f) *Aquaculture*

In the aquaculture cluster, two SMMEs have been supported, namely, the Hands-on Fish Farmers Co-operative (which provides a business structure to 35 small-scale trout producers in the Western Cape) and the Abalone Basket Manufacturing SMME in Hondeklip Bay in the Northern Cape. To date, the aquaculture cluster has provided 383 jobs, of which 23% are held by women and 60% by young people.

Demonstration pilot initiatives that are currently supported include the following:

- The Nelson Mandela Bay pilot in the Eastern Cape to determine the technical, environmental and financial feasibility of farming indigenous marine finfish (i.e. dusky kob, silver kob and yellowtail).
- The Yellowtail Ranching pilot in False Bay in the Western Cape, which focuses on the development of a procedure for transferring beach-seine (drag-net) encircled yellowtail to a towing cage, and towed back to a selected holding cage site so that fish can be supplied to the market on demand.

An abalone pilot project to determine the technical and financial feasibility of abalone farming at Hondeklip Bay in the Northern Cape has been successfully completed and is being prepared for commercialisation, with private investment projected at R100 million. Once this investment has been secured, a new SMME, Diamond Coast Abalone (DCA) will be established, with a worker share equity ownership trust. The share in favour of the workers' trust will depend on investment into the DCA and the transfer of existing assets at Hondeklip Bay, from the Stellenbosch University asset register to DCA.

5.3 Science and Technology Investments

The Subprogramme: Science and Technology Investments leads and supports the development of S&T statistical

indicators, monitors national S&T expenditure, and plans and implements programmes to enhance private sector expenditure on R&D.

Recent outputs and highlights

(a) *R&D tax incentives*

Planned awareness and promotional activities for the R&D Tax Incentive Programme in the 2009/10 financial year were successfully implemented. As a result of these activities, more companies have become aware of the R&D Tax Incentive Programme, and the volume of enquiries received by the Department has increased substantially. By the end of October 2009, the DST had received a total of 301 submissions, with reported R&D expenditure of about R3,2 billion. This is not the desired level and DST has begun work on possible options for promoting small business investments in R&D. The Department is also required to strengthen planning for the required growth in public sector investments in R&D. Both public and private sector R&D spending has to grow if South Africa is to reach and exceed the R&D spending target of 1% of GDP.

(b) *The Report on Publicly Funded Scientific and Technological Activities*

The Report on Publicly Funded Scientific and Technological Activities 2008/09 was prepared as part of the development of the National Science and Technology Expenditure Plan. This is part of the implementation of recommendations made by Cabinet in its approval of the 2004 Strategic Management Model for the Public Science and Technology System. Data analysis for the report reveals that up to 23 national departments funded scientific and technological activities during 2008/09, to a total amount of R1 2,2 billion. Meetings held with individual departments have improved data quality assurance and commitment to S&T reporting.

The development of an integrated project system was finalised and data capturing has commenced. The system will enable monitoring of government S&T projects as well as key performance outputs as a result of the investment. It will allow decision-makers to examine the details and comparisons of S&T investments in specific areas across government and research agencies.

(c) Agricultural Science, Technology and Innovation Committee

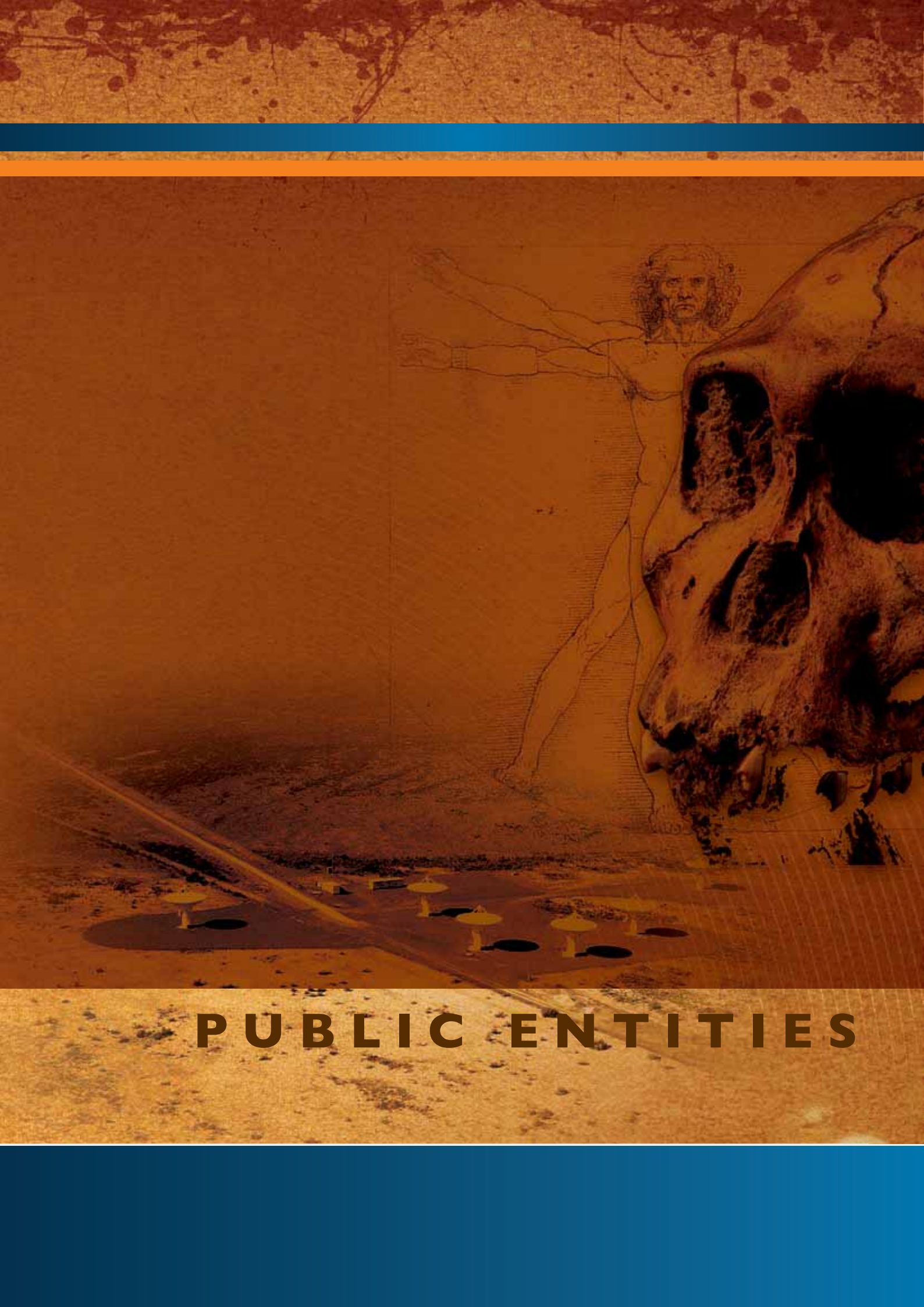
The Agricultural Science, Technology and Innovation Activities Coordination Committee (ASTIACO) was established subsequent to the signing of the Cooperation Framework between the DST and the Department of Agriculture in 2006. Under the cooperation framework, the DST agreed that the then Department of Agriculture would identify and prioritise the agricultural research chairs to be funded, as well as developing an indicator framework for monitoring the performance of the sector. A workshop to define the scope for S&T indicators in agriculture, forestry and fisheries was funded by DST and held on 29 September 2009, with over 30 participants from the research community. The annual report on ASTIACO's activities highlights projects that are jointly funded by both departments.

(d) The Research Information Management System

The implementation of the Research Information Management System is progressing well in so far as it relates to university requirements for managing research portfolios. The number of institutions actually using one or two modules has increased from three in 2008/09 to 10 in 2009/10. Three universities (the Universities of the Witwatersrand, the Free State and Johannesburg) reported on their research outputs to the Department of Higher Education and Training using the Research Information Management System platform, and four more are ready to report in the 2010/11 financial year. Six historically black universities have signed the consortium agreement, and three of these are already using one module.

(e) Science and technology indicators

The results of the 2007/08 National Survey on Research and Experimental Development have been published, and highlighted a 12% increase in gross investment in R&D, to R18,6 billion. South Africa has fallen behind in attempts to reach the 1% GDP target. The fact that the rate of economic growth outstripped the rate at which R&D grew, explains why there is a drop from 9,5% to 9,3% even though there was positive growth in aggregate R&D levels. In addition, the periodic review of survey methodology has also been carried out to ensure that the R&D survey maintains its status as official in terms of the Statistics Act. The draft report on literature review, methodology, and baseline measurements on knowledge economy indicators has been completed.



PUBLIC ENTITIES

COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH



MANDATE

The mandate of the Council for Scientific and Industrial Research (CSIR), established under the Scientific Research Council Act, 1988, is to foster, through directed and particularly multidisciplinary research and technological innovation in the national interest and in fields which, in its opinion, should receive preference, industrial and scientific

development, either by itself or in cooperation with principals from the private or public sector and thereby to contribute to the improvement of the quality of life of the people of South Africa. This allows the organisation to operate in a number of sectors, and it is therefore very well positioned to respond to a number of government priorities.

SOME OF THE HIGHLIGHTS FOR THE 2009/10 FINANCIAL YEAR

Space science and technology

CSIR takes over mission control of SumbandilaSat

The mission control of South Africa's second satellite, SumbandilaSat, has been transferred to the CSIR. This includes carrying out and controlling the operation, as well as downloading images obtained by tracking the satellite using a large dish antenna. The CSIR also downloads telemetry (remote measurement and reporting of information), processes the data and schedules all activities. This is followed by data analyses and the distribution of results. The 81 kg microsatellite, which is about 1 m x 0,5 m in size, lifted off into space on 17 September 2009 from the Baikonur space base after it had been integrated into the Russian Soyuz rocket. The satellite development programme was commissioned by the DST in 2005 and carried out by Stellenbosch University's engineering faculty. SumbandilaSat will provide South Africa with valuable information that will assist in the effective management of disasters (floods and fires), food security (crop yield estimation), health (prediction of outbreaks), safety and security, water resources and energy security. The satellite orbits about 500 km to 600 km above the earth. Carrying a high-resolution imager, it is able to produce images to

be used for agriculture, mapping of infrastructure and land use, population measurement and the monitoring of dam levels, among other things, and stream this information to the CSIR Satellite Applications Centre at Hartebeesthoek, near Pretoria.

New record for launch supports in 2009

The CSIR set itself a new benchmark when it notched up over 20 launch supports for satellites in 2009. The launch supports undertaken by the tracking, telemetry and command group started in February 2009 and ended on 29 December 2009. The last two months of the year proved to be the busiest, with eight launches scheduled. The satellites that the centre helped to put into orbit have many different uses, for example, telecommunications, satellite radio broadcasts, television broadcasting and earth observation. The centre also helped put missions such as the Kepler mission and the Wide-Field Infrared Survey Explorer into space. The launch team's experience and expertise stood it in good stead for the highlights of the year – the tandem support of NSS-12 and THOR-6 in October, and W7 and IS-14 in November. In both cases, the satellites were acquired on time after injection and separation from the launch vehicle.

Fourth high-resolution colour mosaic over South Africa released

The CSIR has produced its fourth annual 2,5 metre spatial resolution SPOT 5 mosaic over South Africa. The imagery is distributed under a multi-government licence to CSIR stakeholders, government departments, and academia and research institutions. These users typically employ the imagery for critical planning purposes across various sectors (e.g. public health, disaster, land and water management, national security, agriculture and forestry), as well as postgraduate research addressing application development, general cartography, change detection, and environmental monitoring, among other things. To produce this mosaic implies complex, time-consuming and data-storage challenges. Various processes need to be followed in order to produce a high quality final product. During the past financial year, 1 444 images were validated as per quality specification and 3 966 images were rejected due to clouds or high-noise levels. The Departments of Science and Technology, Water Affairs and Environmental Affairs assisted in the funding of the 2009 mosaic. In another positive development, the contract between CSIR and Spot Image, France, was renewed for another three-year operational term. The 2010 and 2011 coverage can thus be expected in the near future.

Energy security

Integrated models to aid small town municipal service delivery

Having completed a feasibility study, the CSIR is one step closer to the establishment of an integrated research infrastructure platform on its campus. The goal of this platform is to devise alternative solutions to municipal service delivery problems (energy, water and sanitation) that mitigate climate change and contribute to food,

energy and water security using a systems approach. The platform aims to design and develop an integrated system of technologies that turn sunshine and sewage into energy and valuable commodities, as well as opportunities for local economic development and job creation through food and fuel production. Providing municipal services such as electricity and waste-water treatment is a major challenge in small towns, which often lack the institutional capacity to manage and maintain the necessary infrastructure. High levels of poverty in these towns also present cost-recovery challenges. The platform is a CSIR interdisciplinary response to assist rural municipalities. Research platforms in varying stages of development include municipal service delivery processes such as providing energy and clean water, collecting and treating waste water and solid waste, investigating and refining anaerobic digestion, doing aquaculture (including algal culture), concentrating solar power, and carrying out membrane bioreactor-based waste water treatment.

Wind atlas to help identify viable locations for wind farms

Denmark and South Africa have entered into an agreement for capacity development and research cooperation through the development of wind resource mapping for the Western Cape and areas of the Northern and Eastern Cape provinces. Research will obtain data on wind speeds and frequency along the South African coastal and escarpment regions, in aid of updating South Africa's current wind-resources map. Partners in the project include the Danish Technical University, the South African National Energy Research Institute, the CSIR, the University of Cape Town and the South African Weather Service. The Danish will provide South Africa with expertise to do wind measurement and to develop a numerical wind atlas for South Africa that may lead to viable wind-farm projects. The CSIR has erected masts with instrumentation at six of the 10 sites identified for wind measurement stations in the

Northern and Western Cape. Data from the six masts are captured at the CSIR's Stellenbosch office. As soon as one year's data from all 10 masts become available, researchers in Pretoria will start with microscale modelling of the data to Danish standards.

Research to convert waste plant material to biofuel shows progress

The CSIR is part of a consortium, funded by the DST and the Technology Innovation Agency, which is seeking new biological catalysts to enhance the conversion of waste plant material to biofuel. Using cutting-edge genetic techniques and robotic equipment, thousands of bacteria are screened for novel enzymes that can degrade woody materials, making them easier to ferment into alcohols for second-generation biofuels. So far, a number of new enzymes have been discovered, and these are to be evaluated in upcoming laboratory trials. It is anticipated that these and related discoveries could reduce the cost of ethanol biofuels to the point where they become commercially attractive as fossil fuel replacements. The benefit of this type of technology is that the fuel can be generated using non-food crops and agricultural waste. The technology can also generate chemicals for use by industry to replace oil-based feed stocks. This, in turn, is the basis for a renewable and environmentally-friendly bio-based economy that would reduce the import of fuels and create local businesses. The University of the Western Cape and Stellenbosch University are also part of the consortium, and other collaborators include the Tshwane University of Technology and the University of Limpopo.

Global change

Biobased ceiling panel developed for greener buildings

The worldwide drive towards green buildings has prompted the CSIR to focus some of its research energies on

developing bio-based building materials. As a result, CSIR researchers have developed a prototype natural fibre-based insulated sandwiched panel that can be used as a roof panel in construction. This is essentially a ceiling panel with a flax-reinforced phenolic resin skin and the materials meet all required standards for construction use. Flax is a natural fibre and completely renewable, which reduces the environmental impact of the construction industry. The material also has the potential to create new rural industries and jobs, thereby assisting with economic development. It furthermore has a lower weight and cost than traditional roofing products, and provides inherent insulation. This panel is one of the first CSIR-developed biobased building materials aimed at assisting the South African construction industry in green building.

Earth stewardship promoted through ACCESS

Southern Africa's remarkable geographic, biological, social and economic diversity makes the region ideal for the study of the principle of improved Earth stewardship, and therefore the establishment of an Applied Centre for Climate and Earth Systems Science (ACCESS). Hosted by the CSIR, ACCESS is now officially established as a DST/NRF Centre of Excellence and is a key element of the Global Change Grand Challenge. With the involvement of a consortium of institutions and agencies, ACCESS will provide the opportunity to create a distinctive African institution for the study of Earth-system climate dynamics, and the study of the human dimension from a uniquely southern African perspective, thereby making a significant impact on the global state of knowledge on Earth-systems science. ACCESS views the current environmental crisis as a unique opportunity to provide a platform for broad education about Earth systems and how people interact with them. This has the potential to produce a new generation of graduates with the skills, knowledge and values to tackle the difficult problems of the century ahead.

Biological control of invasive aliens saves South Africa billions every year

CSIR researchers for the first time provided a programme-level economic evaluation of the relative contribution of biological control to the overall control of invasive alien plants in South Africa. Biological control, as opposed to chemical or manual control, is (if executed properly) a safe and sustainable form of control that relies on insects and plant pathogens. Ecosystem services, such as water, grazing, and biodiversity-based products, are worth an estimated R152 billion per year. An estimated R6,5 billion of this value is lost every year due to invading alien plants. However, this would have amounted to an estimated additional R41,7 billion had no control been carried out, and a great deal of this protection was due to biological control. The benefit-cost ratios associated with biological control ranged from 50:1 for invasive sub-tropical shrubs to 3 726:1 for invasive Australian trees. Currently, spending on biological control is far lower than on other forms of control, despite the significantly higher returns on investment from biological control. The CSIR assessment suggests that higher levels of spending on biological control research would generate extremely attractive returns on investment.

Human and social dynamics

Statistical modelling accurately predicts election outcome

During South Africa's 4th national democratic elections in 2009, the CSIR was contracted by the national broadcaster to predict election results using statistical modelling. Besides predicting the different percentages that the parties would obtain nationally and provincially, the CSIR team also predicted that the ANC would not get a two-thirds majority and that the DA would win more than 50% of votes in the Western Cape. The model proved robust enough to give accurate predictions despite several data challenges: voters did not always vote at the stations at

which they were registered and in some instances, the total number of voters at a station far exceeded the number who had registered there. The team sometimes also received two different numbers for a single polling station. The CSIR views and predictions were used in news reports as well as by some political analysts to comment on what the outcome of the elections would be. CSIR researchers also use statistical modelling in a variety of other projects, including for electricity demand forecasting.

Mobile technology connects learners and tutors

A novel mathematics tutoring system is helping South African learners to take up the challenge of science, engineering and technology. Dr Math is a mobile mathematics tutoring system that runs on MXit, a popular instant-messaging service available via cellphones. Six thousand learners have subscribed to the service since its inception, with approximately 3 000 active users. Learners in South Africa write a mathematics examination as part of the National Senior Certificate (NSC). Pass rates have declined since the introduction of the NSC and first-year students at universities experience difficulties in adapting to mathematics and science tuition at tertiary level. Dr Math aims to assist learners and students to improve their mathematical understanding and skills. Tutors have been drawn from the University of Pretoria, the African Institute for Mathematical Sciences and the CSIR to assist learners free of charge if they log on to Dr Math remotely. Queries are channelled to available tutors via a flow management model. The system offers real-time mathematics support at a fraction of the cost of a text message. The learner sends in a query via MXit and receives a response on MXit as well. The project has received support from the Department of Basic Education and will ultimately benefit more than 25 000 schools throughout South Africa. New developments include drill-and-practice competitions and text-based mathematics adventure games.

THE PUBLIC ENTITIES REPORTING TO THE DEPARTMENT OF SCIENCE AND TECHNOLOGY

FOR THE YEAR ENDED 31 MARCH 2010

Other highlights

CSIR technology for improved, more durable, low-income housing

Communities that depend on subsidised, low-income houses in South Africa could benefit greatly from technology developed and tested by the CSIR. The DST commissioned the CSIR to investigate technology possibilities for improved low-income housing. Having determined the shortcomings of a default 40m² low-income house scientifically, researchers developed a demonstration house that would be more comfortable and durable, faster to build, more easily extendible and less dependent on municipal services. An added advantage is that the amount of concrete used during construction is reduced by an estimate of one ton per house due to the innovative technology used for the single foundation slab. This results in a reduction of carbon dioxide emissions – estimated at almost one ton per house. Incorporating many features of the CSIR-developed low-income demonstration house, 441 pilot units are being built in Kleinmond, Western Cape. Local municipal authorities are collaborating with the CSIR and the DST in this pilot study in the local community. It is expected that the first houses will be ready for occupation by December 2010, with the last houses set for completion by March 2011. The DST has commissioned the CSIR to monitor and evaluate the pilot houses at Kleinmond after one year's occupation to determine the performance improvements achieved.

High bandwidth boosts South Africa's science

With 24 institutions now connected through the South African National Research Network (SANReN), South African researchers have started reaping the benefits of access to a world-class network for national and international collaboration. The project is funded by the DST as part of its cyberinfrastructure initiative and is implemented by the CSIR. The national backbone interconnects the metros of

Tshwane, Johannesburg, Mangaung, Cape Town, Nelson Mandela Bay and eThekweni on a 10 gigabits-per-second fibre-optic ring network. The Tertiary Education Network has acquired international bandwidth from Seacom, which can now be distributed via the SANReN national backbone network. Seacom is a 1,28 terabytes-per-second, 17 000 km-long submarine fibre-optic cable system linking Southern and East Africa to global networks via India and Europe. SANReN is an integral part of the national cyberinfrastructure, enhancing complementary projects such as the Very Large Database facility and the Centre for High Performance Computing. It has substantially enhanced South Africa's ability to tackle bandwidth-hungry projects such as the bid for the Square Kilometre Array and other projects of national importance in space science and technology. International video-conferencing, large-scale data transfer and fast web-browsing are some of the advantages SANReN brings to individual researchers at universities to support their endeavours in research and development.

Putting broadband into the hands of rural communities

A multi-year project, Broadband for All, is making strides in providing Internet access to rural schools and other government centres, such as clinics, Thusong Centres, community libraries and tribal offices in the vicinity of Dinaledi schools. The project is funded by the DST through the European Union's Sector Budget Support programme. The project has achieved significant milestones in the Nkengala district of Mpumalanga through the installation of wireless equipment at 180 sites, which has connected schools and other government institutions in the Dr JS Moroka and Thembisile Hani local municipalities for service delivery. To ensure sustainable business models and maximum benefit for local communities, 19 young local entrepreneurs have been trained in business and marketing as well as in information technology and the installation of

hardware. Businesses envisaged by these entrepreneurs range from computer training to multimedia services to their communities. They are participating in the installation phase and are being prepared to take over maintenance and support of the project beyond the pilot phase. An additional two entrepreneurs are involved in full-time mentoring and support for the young entrepreneurs. Preparatory work has started on replicating the project in the Sekhukhune district in Limpopo and in the Kgalagadi district of the Northern Cape.

One step closer to once-a-week TB treatment

Significant breakthroughs have been made in the CSIR's tuberculosis nano-drug-delivery programme. Pre-clinical trials have confirmed that the scientists are on the right track to provide TB patients with a once-a-week drug regime instead of the current once-a-day drug regime. The study demonstrated that TB drugs given once a week over a four-week period were just as effective as daily doses of the drug over the same period when the CSIR team's drug delivery technology is used. Four different types of TB drugs are encapsulated in nano-sized polymeric particles. The drugs are taken orally but the particles end up in systemic circulation in the body for a longer period, and are not eliminated by the body too quickly. This enables a sustained release into the body over longer periods with a gradual uptake of the antibiotics into the cells. CSIR researchers hope to prove that the nano-delivery method will use less medicine over a shorter period of time and with lower frequency, which is anticipated to make drug side-effects less, make drugs more effective and encourage patient compliance.

Sensing viruses and bacteria when no laboratory is available

Using nanomaterials, the CSIR is developing a mechanism (microcantilever) that will sense viruses and bacteria in fluid samples. The mechanism is embedded on a microfluidic

chip, which is about the size of a child's hand. It will be able to be used in areas where a laboratory is not readily available to test for viruses in blood or bacteria in water, for example. While such cantilevers already exist, it is believed that, if manufactured with polymer nanocomposites, their elasticity could be improved, while also enabling tailored manufacturing. This would allow the microcantilevers to be used in a wider range of applications. This project, which is at an early stage of research, combines the existing competencies of the National Centre for Nano-Structured Materials, hosted by the CSIR, and the CSIR's micromanufacturing research group.

AFRICA INSTITUTE OF SOUTH AFRICA (AISA)



MANDATE

The mandate of the Africa Institute of South Africa (AISA), established under the Africa Institute of South Africa Act, 2001, is to promote knowledge and understanding of African affairs through social scientists acting in concert and across all disciplines, and through training and education on African affairs; to collect, process and disseminate information on African affairs; to give effective advice and facilitate appropriate action in relation to the collective needs, opportunities and challenges of the continent; and to promote awareness and consciousness of Africa at grassroots level. AISA is a research institute that focuses on political, socio-economic, international, and development issues in contemporary Africa.

On the basis of the above and the grand challenges identified in the DST's Ten-Year Innovation Plan for South Africa, the Institute pursues a number of objectives:

- Providing research and policy development support in pursuit of programmes that could contribute to the development of the African continent.
- Conducting training programmes that promote increased awareness and understanding of the African continent.
- Improving the skills capacity of young researchers in the social sciences via the AISA Young Graduates and Scholars, AISA Campus Lecture Series and internship programmes.
- Propagating the publication of research on Africa in Africa.
- Promoting access to information on Africa.
- Creating platforms to discuss and debate socio-economic and political issues in Africa.
- Establishing and maintaining networks in Africa and globally, which will contribute to the peace and prosperity of the continent.

SOME OF THE HIGHLIGHTS FOR 2009/10 FINANCIAL YEAR

In 2009/10 financial year, AISA continued its research on continental integration and strengthened relations with academic and other research institutions in Africa.

AISA's ever-increasing network of researchers on the continent serves the institution well, as it facilitates the exchange of information and collaboration on projects, and provides potential opportunities for commissioning work, particularly in areas of Africa where AISA lacks the skills and experience to conduct research effectively. As a result of the increase in AISA's networks, many more requests were received for AISA staff to participate in external events, thus increasing the awareness of developments within Africa and

the scope of research conducted by the Institute. AISA has changed the paradigm of its fellowship programmes to a project need basis, as opposed to allowing fellows to choose a project for the duration of their fellowship. This paradigm shift required fellows to project manage biannual publications such as the *State of Africa*, and commission chapters to a book on North Africa that is to be finalised in 2010/11.

AISA will also host their first conference in North Africa in 2010/11. In addition to the above, the 2009/10 fellowship programme rendered an evaluation of AISA's Campus Lecture Series, as well as a benchmarking report.

The impact of research conducted in the past and reference to reports that AISA collaborated on still presents a challenge, which they will attempt to address in the 2010/11 financial year. AISA's impact continues to grow as their relationships with African studies departments and institutions prosper.

As a concession to a number of factors such as their location and their ability to host limited audiences and engage with African Studies scholars, AISA procured video-conferencing facilities and began hosting events at previously disadvantaged universities, where presentations of renowned scholars and authors are infusing increased debates and discussions on Africa. AISA also co-hosted Africa Month seminars at Unisa and the Hector Petersen Museum in Soweto.

AISA's Library and Documentation Services (LDS) division continues to grow by procuring and exchanging Africa-relevant materials. LDS also managed the implementation of a records management system at AISA and will continue endeavours to digitise AISA-produced materials to increase access to them.

The GIS unit within LDS has successfully completed the GIS web portal, as well as the design and development of a geospatial database on socio-economic and political issues in Africa. The database is a prototype with 28 themes, including national demographics, regional economics, and political data, for all the African countries. To increase the reliability of the said data, it was collated from various open data sources, and then examined and purified using data mining approaches. The GIS unit also demonstrated its ability to craft specialised maps to assist researchers when conducting fieldwork, and to reflect ever-changing trends within Africa. An example of the latter includes maps developed to complement research commissioned from AISA on the migration patterns among transnational communities.

To alleviate pressure on their limited resources, AISA will continue to develop strategic relationships with governments, academia, and other research institutions that will assist the Institute to fulfil its mandate. One of the partnerships, with the Department of Rural Development and Land Reform, allowed AISA to obtain digital maps that cover the whole of South Africa. AISA also signed and implemented seven memoranda of understanding with institutions in South Africa, Argentina, Morocco, Turkey and China, which will enable them to increase efficiency, share project costs, and continue to build their Africana library holdings.

Projects undertaken or funds raised must be relevant to the mandate of AISA. In 2009/10 financial year, AISA assisted the Department of International Relations and Cooperation to hold seminars in three provinces to commemorate the 10th Anniversary of South Africa-Nigeria binational relations. Fundraising in 2009/10 once again surpassed expectations and, if AISA's capacity increases, so will its ability to attract more donor-related projects. AISA managed to effect considerable cost savings again by obtaining sponsorships to international conferences, and all its media appearances were free. To increase the visibility of AISA in local media, greater emphasis will be placed on the provision of material to and active engagement with local media houses.

THE PUBLIC ENTITIES REPORTING TO THE DEPARTMENT OF SCIENCE AND TECHNOLOGY

FOR THE YEAR ENDED 31 MARCH 2010

HUMAN SCIENCES RESEARCH COUNCIL



MANDATE

The mandate of the Human Sciences Research Council (HSRC), in terms of the new Human Sciences Research Council Act, 2008, is to initiate, undertake, foster and publish basic and applied research in the human sciences relevant to developmental challenges in South Africa, elsewhere in Africa and in the rest of the world, especially by means of projects linked to public-sector-oriented collaborative programmes; to inform the effective formulation, monitoring and evaluation, and implementation of policy; to stimulate public debate through the effective dissemination of the results of research; to help build research capacity and infrastructure for the human sciences in the country

and elsewhere in Africa; to foster and support research collaborations, networks and links with other organisations within the human sciences research community; to respond to the needs of vulnerable and marginalised groups in society by researching and analysing developmental problems; to develop and make publicly available new datasets to underpin research, policy development and public discussion of the key issues of development; and to develop new and improved methodologies for use in their development. All these actions contribute to improving the quality of life of the people of the South Africa and the African continent.

SOME OF THE HIGHLIGHTS FOR THE 2009/10 FINANCIAL YEAR

During 2009/10, the HSRC undertook a variety of nearly 160 projects and an assortment of other initiatives in the field of the social sciences and humanities with the intention of contributing to the government's national priorities. Ongoing ventures involve highly relevant issues such as improving the quality of education, the social aspects of HIV and Aids, the well-being of families and society, governance, policy work and developmental questions.

Democracy, governance and society

Reconciling Africa's fragmented government institutions

The two-year (2009-2011) project on reconciling Africa's fragmented government institutions, conducted in partnership with Pennsylvania State University (USA) and research institutions in Somaliland, Ethiopia, Kenya and South Africa, has raised great interest among politicians and traditional leaders in the four countries. The first phase, which consisted of literature surveys and key informant interviews in eight communities, found that in all

four countries, traditional institutions were respected and accommodated by modern ones and their structures varied from centralised to decentralised, depending on their role within the modern state. The institutions were also most effective in conflict prevention and resolution, with a focus on mediation, compensation and reconciliation, as well as land-allocation mechanisms. On the negative side, women were often excluded from decision making because most traditional institutions are hereditary and patrilineal. The second phase of the project will consist of a household survey in the eight communities to balance the leadership opinions obtained during the first phase.

Migration research

The HSRC's migration research focuses on both internal migration and immigration dynamics. In 2008, the pilot survey on internal migration in the Sekhukhune-Gauteng corridor, funded by DST, was completed. The success of this project led to DST's approval of a phase 2, which will produce a fuller national review of internal migration in four

corridors. This will be the first major dataset on internal migration, revealing determinants of movement and service delivery implications. This project is being implemented in partnership with the CSIR.

The urban legacy of the 2010 FIFA World Cup™

This project, which culminated in the publication of the book *Development and Dreams*, considered the impact of South Africa's hosting of the 2010 FIFA World Cup™. The interdisciplinary research project included academic and applied components and provided a perspective on the probable consequences of the World Cup for the economy of South Africa and its cities, on infrastructure development, and on the projection of African culture and readiness. This groundbreaking project represented the largest consolidated body of independent research on the subject and included a balanced and largely unsentimental mix of assessments of South Africa's prospects in this regard. It also became the touchstone of a much needed national conversation on the 2010 World Cup, and is cited globally.

Education and training

Review of school-funding policy

The analysis indicated that the current quintile ranking system does not work effectively. The schools that were mostly disadvantaged were those assigned to the middle quintiles. Their needs were as great as, or greater than, those in Quintile I, but according to the current financing formula they received less financial support. The research points to the urgent need for the regular reclassification of schools to ensure that those in greater need are classified under the correct quintile and thus qualify to receive sufficient levels of funding to meet their specific needs. Alternative approaches worth considering include calculating the quintile status of a school based on the composition of learners, or on the availability and use of resources, creating only three poverty levels, or some combination of these.

Student retention and graduate destination

The findings of this project were published in a volume (Letseka, M, Cosser, M, Breier, M and Visser, M (2009) *Student Retention & Graduate Destination: Higher education & labour market access & success*), the chapters of which address these issues in relation to one or more of seven institutional case studies. Among the key findings of the study were the following:

- Poverty – a feature of the student profile in a number of institutions – leads to both dropout and stopout. Apparent non-completers abandon higher education only to return to their studies after earning sufficient money to pay for them.
- The slow pace of institutional change has deleterious effects on student throughput.
- The tension between the need for success and the need for diversity was a challenge.
- Discrimination persists in the labour market absorption of black graduates.
- Race remains the most significant determinant of graduation and employment – though not of earnings – in the labour market.

The Department of Higher Education and Training has considered these findings in its revision of the National Student Financial Aid Scheme and in its development of guidelines for the social and academic transformation of universities.

HIV, Aids and health

3rd National HIV survey shows epidemic has stabilised

The third national HIV prevalence, incidence and communication survey, which was conducted in 2008 and which followed surveys in 2002 and 2005, enabled the HSRC to measure trends and changes in the epidemic over time

THE PUBLIC ENTITIES REPORTING TO THE DEPARTMENT OF SCIENCE AND TECHNOLOGY

FOR THE YEAR ENDED 31 MARCH 2010

and to report essential data for national indicator reporting – a responsibility given to the HSRC in the South African National Strategic Plan for HIV & AIDS and STIs 2007-2011. The specific objectives of the study were, among other things, to determine the prevalence (total infection rate) and incidence (new infections) of HIV infection; assess the relationship between behaviour and HIV infection; describe trends in HIV prevalence, HIV incidence, and risk behaviour from 2002 to 2008; and assess major national behaviour change communication programmes. Positive trends and changes include the reduction of HIV prevalence in children aged 2 to 14 years of age; most notably the decline in HIV prevalence in the teenage population, contributing to the overall decline in HIV prevalence among the youth. The decline in HIV prevalence in the teenage population of 15 to 19 years in 2008 is corroborated by decreases in mathematically derived HIV incidence in this age group.

Taking HIV prevention into homes and neighbourhoods

In Project Accept, the HSRC has mobilised communities. It has also provided both rapid mobile testing and post-test support so that as many people as possible can learn their status in a relatively short period of time. During the 2007/08 to 2009/10 financial years, the HSRC effectively delivered these prevention services among 35 000 people, and tested more than 45% of this group, aged 16 years and older. Early results indicate that an active outreach approach successfully reaches young people, and roughly equal numbers of men and women. Currently, HSRC is conducting a post-intervention assessment, comparing intervention to control communities on biological, behavioural and cost outcomes. This requires HSRC to assess 11 440 young adults (18 to 32 years of age), collecting blood samples for HIV testing and CD4 counts, as well as the completion of behavioural risk questionnaires.

The road to a National Health Insurance (NHI) system

The HSRC provided logistical assistance by establishing a secretariat for the national task team on NHI, the precursor to the ministerial advisory committee. The secretariat handled administrative duties, and conducted relevant secondary and implementation research on NHI. The national task team set out to develop an NHI draft proposal. This was achieved within 10 months, after which it was officially handed over to the Minister of Health. The ministerial advisory committee will finalise the proposal on the NHI. The government, through the Department of Health, has been mandated to facilitate the process of policy implementation on the NHI.

Poverty and development

Developing an exit strategy for indigent inhabitants in Tshwane

The City of Tshwane Metropolitan Municipality commissioned the HSRC to develop an “exit” strategy and monitoring tools with foresight to help raise inhabitants in the area out of indigence. The study highlighted the problematic and elusive nature of categorising poverty and the more intractable problem of getting people out of poverty and breaking the cycle of dependency. Many approaches have been tried, none of which have been an unqualified success. Proposals following from this study included the necessary caveats and avoided dogma by enumerating the strategic issues to be considered as part of any model going forward.

Improving quality of life in Limpopo

The office of the premier in Limpopo approached the HSRC to provide technical assistance in the review of the 2004-2014 provincial growth and development strategy (PGDS) in Limpopo and to recommend baselines and performance targets that could be used to review progress

made towards the goals and objectives of the PGDS. The research focused on the objectives in the PGDS as laid out in a document called "Improve the Institutional Efficiency and Effectiveness of Government". The results of this research were presented to the Limpopo Monitoring and Evaluation Forum at the end of August 2009. All data, analyses and recommendations from the research have been submitted to Econosec-Limpopo and the Office of the Premier for them to draw on in their review of the PGDS. This research will be used by the research-based consultancy AFReC to assist the Limpopo Office of the Premier to establish and implement a monitoring and evaluation (M&E) framework. M&E, as a discipline, has a large vocabulary of terms and phrases and the implementation of any such framework must be supported by a common understanding and usage of this vocabulary.

A society with more than a few good men

Seed funding provided under the DST's Human and Social Dynamics Grand Challenge was used to begin a five-year study focusing on men's morality. Collaborators and research trainees from six South African universities and two foreign institutions are involved in the study. The study is investigating the social, cultural and environmental requirements for a society with more than just "a few good men", as seen from different perspectives. In particular the study asks what defines a good man, how men's values have changed over time, and the role of culture and poverty in producing different ideas of morality.

Science for society

Indicators for research and development

The R&D survey results for 2007/08 indicate that although South Africa's R&D expenditure increased from R16,5 billion in 2006/07 to R18,6 billion in 2007/08 (a 3,1% increase in real terms) this did not keep pace with the growth of South

Africa's GDP, and R&D expenditure as a percentage of GDP fell slightly from 0,95% of GDP in 2006/07 to 0,93% in 2007/08. The work informs government's strategic planning processes and provides inputs for policy makers. Expenditure on R&D as a percentage of GDP is the 10th of indicator of future competitiveness in the 2009 Development Indicators produced by the Presidency.

The world of work

Employment scenarios

In 2009/10, special contributions were made in respect of public employment, addressing youth unemployment and promoting employment through procurement. There has been continued success in drawing together top experts, opinion-makers, and decision-makers. The HSRC has developed an innovative hub-and-spoke network model for scenario building, with a core employment scenarios group, and links to major stakeholder networks and decision making forums. The HSRC Employment Scenarios are now seen as one of the most important documents in respect of the country's economic future.

Centre of excellence on employment creation in Tshwane

The HSRC signed a memorandum of understanding with the City of Tshwane Metropolitan Municipality, which led to the establishment of a Centre of Excellence on Employment Creation. Tshwane is contributing R28 million over three years to test innovations in the policy process with the aim of identifying ways of intensifying employment creation. Three areas receiving attention include employment through procurement, employment through early childhood development for children under five, and enhancing the employability of school leavers. The HSRC's role is to identify innovations, work with implementing agents, and monitor and evaluate the outcomes of the intervention.

THE PUBLIC ENTITIES REPORTING TO THE DEPARTMENT OF SCIENCE AND TECHNOLOGY

FOR THE YEAR ENDED 31 MARCH 2010

Youth and children

A long-term perspective on child and youth development

The Birth to Twenty (Bt20) study has now been running for 20 years. The HSRC collects longitudinal data on a group of 3 273 singleton children born in Johannesburg-Soweto between April and June 1990. The sample is roughly representative of the demographic parameters of South Africa, and attrition has been comparatively low (below 30%), occurring mostly in the first 3 to 4 years of children's lives. An exciting new development in the HSRC study is the launch of the Third Generation project (G3) which tracks all children in the Bt20 cohort, providing a perspective of child and youth development across three generations. To date, more than 250 G3 children have been enrolled into an intensive study of the effects of early stress on growth and risk for adult ill-health.

Young fathers

This reporting year saw the publication of the research monograph *Teenage Tata* by Sharlene Swartz and Arvin Bhana. Based on a study funded by Save the Children Sweden, the book highlights the frequently agonising experiences of impoverished young men becoming fathers in South Africa, often unplanned and unexpected. In addition to the book, a summary booklet was produced and circulated to policy makers and practitioners, many of whom also attended a workshop on the topic. Dissemination of this important research was achieved through two addresses to Parliamentary committees, numerous radio and television interviews, and presentations at local and international academic conferences, including at Oxford and Cambridge Universities.



ACADEMY OF SCIENCE OF SOUTH AFRICA



MANDATE

The mandate of the Academy of Science of South Africa (ASSAf) established under the Academy of Science of South Africa Act, 2001, is to link South Africa with scientific communities at the highest level, within the Southern African Development Community (SADC), the rest of Africa and the world; to promote common ground in scientific thinking across all disciplines, including the physical, mathematic and life sciences, as well as human, social and economic sciences; to encourage and promote innovative and independent scientific thinking; to promote the optimum development of the intellectual capacity of all people; and to promote effective advice and facilitate appropriate action in relation to the collective needs, opportunities and challenges of all South Africans.

ASSAf, as the only national science academy to be officially recognised by the South African government, aims to provide evidence-based scientific advice on issues of public interest to government and other stakeholders. ASSAf regularly publishes its findings and recommendations and also acknowledges the achievements of South African scientists in order to develop the intellectual capability of the nation and promote innovative scientific thinking. The Academy enjoys regular interaction and knowledge exchange with other national science academies throughout the world.

SOME OF THE HIGHLIGHTS FOR THE 2009/10 FINANCIAL YEAR

Scholarly Publishing Programme

The strategic goal of ASSAf's Scholarly Publishing Programme is to enhance the national capacity to produce and publish research, and to increase the quality and visibility of South African research publications.

Open access platform

During the reporting period, significant progress was made in the implementation of the open access platform, known as the Scientific Electronic Library Online (SciELO) South Africa, for high-quality South African scholarly journals. The project is inspired by a wide-reaching movement towards the implementation of online journals, pioneered by the SciELO project, based in Brazil. Eight pilot journals are now available on the SciELO platform to establish a blueprint to determine workflow, and technical, indexing and publishing requirements.

Strategic approach to scholarly publishing in books in South Africa

The report on the consensus study on scholarly publishing in books in South Africa was finalised during the reporting period. The report addresses issues relating to the production, use and evaluation of scholarly books in South Africa and was commissioned by the Department of Higher Education to assist them with the recognition of books and chapters in books as a component of the research output of higher education institutions.

Evidence-based study projects

There has been a noteworthy increase in project-related activities during the past year. This has been possible through the contribution of ASSAf members and other national and international experts who serve on the many panels and committees and who give freely of their time to assist ASSAf

THE PUBLIC ENTITIES REPORTING TO THE DEPARTMENT OF SCIENCE AND TECHNOLOGY

FOR THE YEAR ENDED 31 MARCH 2010

in the achievement of its goal to provide scholarly evidence-based policy advice. ASSAf project staff have also played a valuable supportive role in project-related activities rendering a professional service to panel members. Evidence-based projects fall into three broad areas, i.e. health, humanities and education, and environment, including energy. Seven new projects were introduced in the fields of climate change, energy, water, genetically modified organisms, multidrug-resistant tuberculosis and HIV/Aids. During the reporting period, the final report on clinical research was approved and a policy-makers' booklet on Improving Maternal, Newborn and Child Health was published.

International recognition

Considerable momentum has been imparted to this important component of the Academy's activities. All activities are carefully meshed with those of the DST's own international programme and with the relevant programmes of the NRF. ASSAf is an active collaborator of the Academy of Sciences for the Developing World (TWAS), which has programmes to stimulate scientific development in developing countries and co-sponsors ASSAf's Young Scientist Award. The highlight of the year was the hosting of the TWAS General Conference in Durban in October 2009, which significantly increased ASSAf's profile and role in TWAS. The conference was attended by 347 participants, from 63 countries in the developing world, the science and technology ministers of India, Brazil and South Africa, as well as high-ranking technical advisers of various governments in the developing and developed world, and representatives of the Indian, Chinese, and Brazilian diplomatic missions in South Africa. During the conference, national chapters of TWAS and the Third World Organisation for Women in Science were launched.

Scientific scholarly excellence

ASSAf gold medals

ASSAf annually awards up to two ASSAf Science-for-Society Gold Medals for outstanding achievement in scientific thinking for the benefit of society. In 2009, Gold Medals were presented to Professors Anna Coutsooudis and Paul van Helden of the Universities of KwaZulu-Natal and Stellenbosch, respectively. Dr Estelle van Heerden of the Free State University was awarded a young scientist prize in 2009 by the Academy.

Annual symposium

At least one national open symposium is held annually. The 2009 symposium, held in October 2009, addressed the topic of "PhD Production in South Africa". The forum was used in a consultative way to solicit input on the preliminary findings of the ASSAf Consensus Study on this topic.

Sydney Brenner Fellowship

Dr Sydney Brenner donated a portion of his 2002 Nobel Prize to ASSAf to permit ASSAf (in partnership with the US National Academy of Sciences) to offer a prestigious postdoctoral fellowship for research to be undertaken in South Africa over two years by an outstanding young scientist. Two Sydney Brenner Fellowships were awarded in the reporting period.

ASSAf has been actively promoting young scientists' awards and activities. During the reporting year, support was granted to two young outstanding scientists, Dr Bernard Slippers and Prof. Thokozani Majozi, to attend the World Economic Forum in Tianjing, China in September 2009. Prof. Tshilidzi Marwala, nominated by ASSAf, won the prestigious TWAS-AAS-Microsoft Award. Dr Bernard Slippers was nominated to attend the launch of the Global Young Academy (GYA) in Berlin, Germany from 13 to 14 February 2010, and was subsequently elected to serve on the Executive Committee of the newly established GYA.

Communication and publications

The Communication section supported and produced all printed requirements for the Academy, ranging from its flagship journal, the *South African Journal of Science (SAJS)* and science magazine, *Quest – Science for South Africa* to non-periodical publications for ASSAf's various workshops, symposia and conferences.

South African Journal of Science

The SAJS, now in its 106th year of publication, aspires to be the leading multidisciplinary journal in Africa, publishing original research with a multidisciplinary or regional focus, as well as serving as a forum for debate about recent developments in research and higher education. During the reporting year, the SAJS successfully transferred to an online manuscript tracking system.

Quest - Science for South Africa

Quest is a full-colour, quarterly, popular science magazine directed at a target audience comprising learners, educators and the general public. It aims to present the country's foremost scientific work in an accessible form. *Quest* is widely distributed to public high schools with science departments and at national science events. With a print run of 25 000 per issue, *Quest* is distributed widely to Dinaledi schools and other public schools. Private schools were reached through a targeted drive in which these schools were invited to subscribe to *Quest*. Response has been positive. An interactive website was developed and was launched in March 2010 at SciFest 2010.

Publications

During the reporting year, the Academy continued the publication of the *Science for Society* newsletter. A highlight for the Academy was the successful production and publishing of *The State of Science in South Africa*. The book was launched at the TWAS Conference in October 2009 and has been widely acclaimed. A total of 1 000 copies have been distributed and a second print run is being considered. ASSAf published a statement on academic freedom in March 2010 and was a signatory to a statement on energy and climate change by the G8+5 group of academies, as well as a statement on brain drain published by the Network of African Science Academies.

Raising the profile of the Academy

The objective is to enhance the reputation of ASSAf to encourage membership nominations from the country's best scholars and to establish the Academy as a credible source of policy advice. Members are the core asset of the Academy and give of their time and expertise voluntarily. The current membership of the Academy is 343. A total of 25 new members were elected during this past year. During the reporting period, ASSAf actively sought greater representivity in respect of race, gender and disciplines that are currently still under-represented (e.g. social, human, agricultural, mathematical, economic and technological sciences). Of the 25 new members five are women and four are black.

External funding

There has been progress towards diversification of sources of income, a key imperative as the funding from the US National Academies draws to a close. External funding has been secured for most of the Academy's evidence-based study projects.

NATIONAL RESEARCH FOUNDATION



MANDATE

The mandate of the National Research Foundation (NRF), established under the National Research Foundation Act, 1998, is to promote and support research through funding, human resource development and the provision of the necessary facilities in order to facilitate the creation

of knowledge, innovation and development in all fields of science and technology, including indigenous knowledge, thereby contributing to the quality of life of the people of South Africa.

SOME OF THE HIGHLIGHTS FOR THE 2009/10 FINANCIAL YEAR

Human capital development

The NRF places a premium on developing appropriately skilled human resources. The NRF therefore provides a diversity of support programmes. These programmes range from science awareness and education programmes at school level to bursary and scholarships programmes for postgraduate students to several modes of funding for researchers at research institutions. The NRF invested R799,3 million in grants (including bursaries and scholarships).

Science awareness, education and communication

The South African Agency for Science and Technology Advancement (SAASTA) is primarily responsible for growing the pool of potential researchers by coordinating science and technology advancement activities across the NRF. These activities target learners, the public at large and the research community. An amount of R44m (7%) of the NRF budget was invested in science advancement by SAASTA and the national research facilities. The national research facilities also offered science awareness opportunities, and R13,6 million (4% of the total NRF investment in supporting science advancement) went to science advancement support at the national research facilities.

Student support

The NRF aims at growing the next generation of researchers and is therefore supporting students. Both undergraduate and postgraduate students benefited from this support.

- The Research and Innovation Support and Advancement (RISA) division of the NRF provided scholarships and bursaries to 1 663 BTech/honours students. A further 2 203 masters and 1 265 doctoral students, as well as 255 postdoctoral fellows were supported.
- The national research facilities admitted 382 students to spend time at and participate in the work of the facilities as part of their formal experiential training, and 446 postgraduate students made use of the facilities as part of their training.
- 82 research staff members of the national research facilities were involved in short-term student training while 78 staff members were involved in supervision or co-supervision of postgraduate students.

It is of interest to note that the NRF supports only 10% of all PhD students registered in South Africa. As an unexpected additional amount of just more than R50m became available for student bursaries toward the end of the financial year, an increase in funding for this aspect should be marshalled.

Support for researchers

- Of the approximately 3 000 active researchers in South Africa, the NRF supported 2 442 researchers of which 26% are black and 35% are women.
- 1 242 rated researchers from designated groups were supported by the NRF.
- The NRF ensures that South African research is benchmarked internationally and 2 137 (71%) of the approximately 3 000 active researchers in South Africa currently have an NRF rating, which means that their research outputs have been peer reviewed and ranked. 17% of the rated researchers are black and 27% are women.

During the 2009/10 financial year, the NRF improved its support for research through the review and renewal of the centres of excellence, the small but meaningful growth in the number of SARChI chairs, and the Strategic Platforms Collaboration Programme.

Internationally competitive research

The NRF supports research that is of international standard, but also of local relevance. The NRF invested R139,7 million (17%) of the total RISA grant investment to support of the social sciences and humanities. In order to support the internationalisation of South African research, R70 million (9%) of the total RISA grant investment went to the support of international initiatives.

Research outputs include

- 2 753 peer-reviewed journal articles (for the Institute of Science Information and others) were published through researchers sponsored by RISA discretionary funding (excluding contracts).
- 1 298 contributions in refereed/peer-reviewed conference proceedings were published.
- 43 books and 216 chapters in books were published.
- 12 patents were granted to research sponsored by RISA.
- 117 international projects were funded within agency-to-agency and country-to-country agreements.

NRF staff members were responsible for producing 181 refereed articles, 11 chapters in books, 77 keynote/plenary addresses and 27 technical or policy reports.

Research and technology infrastructure platforms

The national research facilities spent 43% (R156m) of their total investment (R360m) for providing research platforms. In addition the NRF invested 12% (R101,9m) from the RISA grant budget on providing research equipment at the national research facilities and other research institutions. Researchers from higher education institutions are encouraged to access the equipment at the national research facilities.

The national research facility research platforms are clustered on the basis of their areas of specialisation into three broad categories aligned with the science missions of the National Research and Development Strategy, namely:

Astroscience, Space Science and Geoscience

- South African Astronomical Observatory (SAAO): This national research facility performs fundamental research in astronomy and astrophysics at a national and international level. SAAO is the national research facility for optical and infrared astronomy in South Africa. It is also responsible for managing the operations of the Southern African Large Telescope (SALT).
- Hartebeesthoek Radio Astronomy Observatory (HartRAO): This national research facility was established as the national facility for radio astronomy research in South Africa. Its primary function is to

THE PUBLIC ENTITIES REPORTING TO THE DEPARTMENT OF SCIENCE AND TECHNOLOGY

FOR THE YEAR ENDED 31 MARCH 2010

support research and training in radio astronomy and space geodesy and to support the SKA South Africa project.

- Hermanus Magnetic Observatory (HMO): This national research facility is part of a worldwide network of magnetic observatories that monitor and model variations of the Earth's magnetic field. HMO's activities also include fundamental and applied space physics research, and the provision of geomagnetic field-related services on a commercial basis.
- Square Kilometre Array (SKA) South Africa project: The SKA will be the world's most powerful radio telescope, and will be hosted by either South Africa or Australia. The selected site for the SKA will be announced in 2012. About 50 to 100 times more sensitive than any other radio telescope on Earth, the SKA will be able to probe the edges of our Universe. It will help us to answer fundamental questions in astronomy, physics and cosmology, including the nature of dark energy and dark matter. It will be a powerful time machine that scientists will use to go back in time to explore the origins of the first galaxies, stars and planets. If there is life somewhere else in the Universe, the SKA will help us find it.

Biodiversity/Conservation

- South African Institute for Aquatic Biodiversity (SAIAB): This national research facility serves as a research hub for aquatic biodiversity in southern Africa by housing and developing the National Fish Collection and associated resource collections as research tools and sources of aquatic biodiversity data. It also generates knowledge on aquatic biodiversity through interactive and collaborative scientific research, and disseminates scientific knowledge at all levels.
- South African Environmental Observation Network (SAEON): SAEON is an emerging research facility that establishes and maintains nodes (environmental

observatories, field stations or sites) linked by an information management network. These nodes serve as research and education platforms for long-term studies of ecosystems that will provide incremental advances in our understanding of ecosystems and our ability to detect, predict and react to environmental change.

- National Zoological Gardens of South Africa (NZG): This is a national research facility for research in terrestrial biodiversity and an active participant in terrestrial biodiversity research. The NZG houses one of the largest animal collections in the world, operates three breeding centres and has almost 8 000 hectares available for its activities at different locations.

Nuclear Sciences

- iThemba Laboratory for Accelerator Based Sciences (iThemba LABS): This national research facility provides advanced, viable, multidisciplinary facilities for training, research and services in the fields of subatomic nuclear science and applied radiation medicine.

As science performance and awareness platforms, the national research facilities aim to promote a culture of science and to stimulate young people to follow careers in science and technology.

Highlights in the work of the national research facilities include the deployment of KAT-7, the precursor of the MeerKAT and/or Square Kilometre Array, the operations at SALT, the establishment of the Keetmanshoop Magnetic Observatory, the deployment of the Centre for Conservation Science at the NZG, and the SAIAB launch of the Ukwabelana ship and remotely-operated vehicle.

In addition to the national research facilities, the NRF serves as a central node for infrastructure and data in the national Research Information Management Systems (RIMS) project, which currently involves seven universities and nine science

councils, and is intended to give government access to accurate and up-to-date information on research inputs and outputs. RISA invested R14,1 million on information services and platforms such as the Nexus database system.

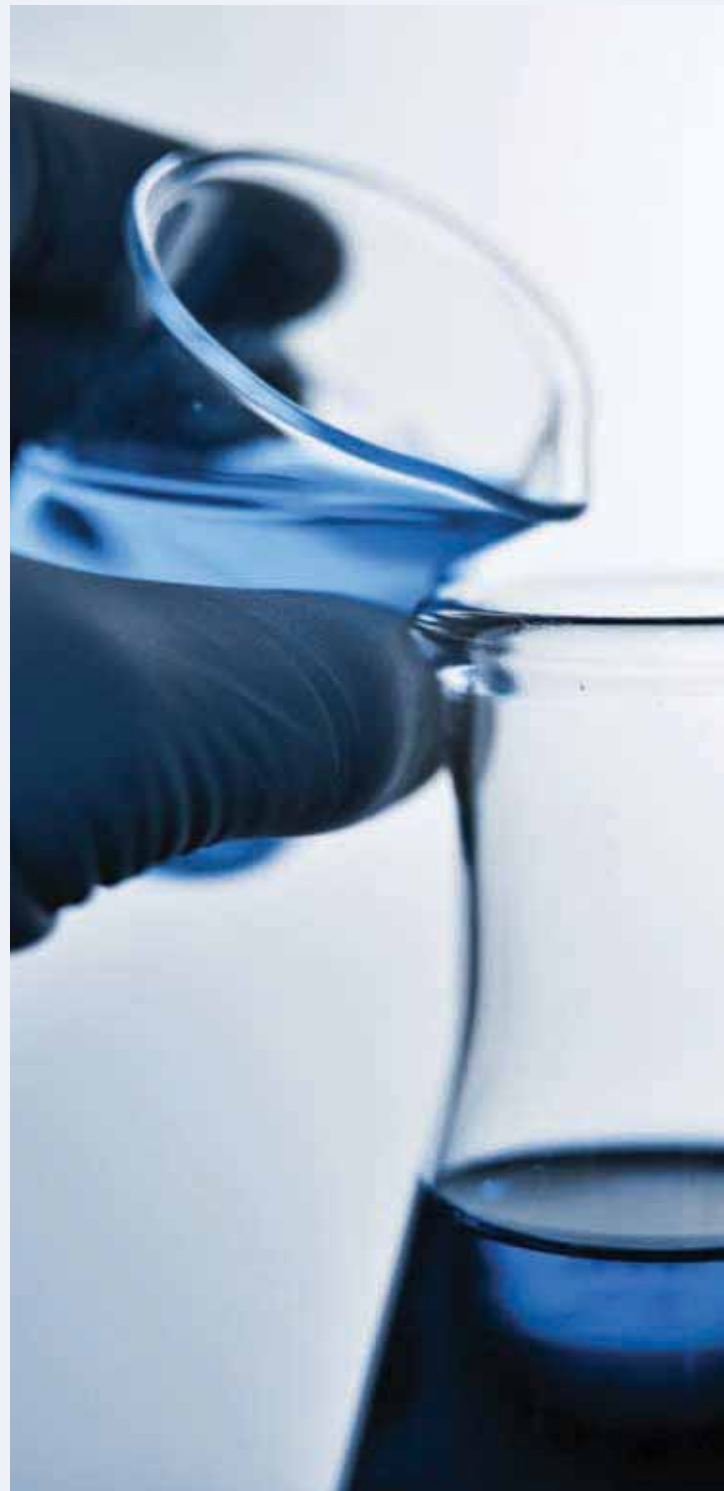
Evaluation and grant-making systems

An important component of the activities of the NRF is the operation of effective and efficient evaluation and grant-making processes. The evaluation of research outputs and the resultant rating of individual researchers remains a key activity. Higher Education South Africa (HESA) and the NRF exposed the rating system to a rigorous review in 2008/09. The purpose of the review was to reconsider the NRF evaluation and rating system of individual researchers in terms of its purpose and utility. In line with the recommendations of the review, the NRF has retained the system and during 2009/10 re-established the link between rating and funding by phasing in the Incentive Funding Programme for rated researchers.

The NRF also commissioned an independent evaluation of how the NRF manages the peer review process used for prioritising grant applications and research proposals, and the recommendations received via the review reference committee will guide much of the future work to be done for improving the quality and value addition of this critical process.

A vibrant National System of Innovation

During 2009/10 the NRF contributed to the vibrancy of the South African knowledge system mainly through a variety of human capital development initiatives; by promoting the diversity, depth and quality of knowledge generation and application; and by hosting, maintaining, providing access to and conducting research at the national research facilities.



THE PUBLIC ENTITIES REPORTING TO THE DEPARTMENT OF SCIENCE AND TECHNOLOGY

FOR THE YEAR ENDED 31 MARCH 2010

TSHUMISANO TRUST



MANDATE

The mandate of Tshumisano Trust is to improve the competitiveness of the innovation capacity of SMMEs in selected sectors through technological innovation and related skills development. The Technology Stations Programme supports and maintains a sustainable system of competent providers of technology transfer and related needs-orientated services to SMMEs, while ensuring

that universities of technology orient their graduates and research and development towards the needs of SMMEs.

Tshumisano Trust is responsible for supporting a network of university-based Technology Stations providing technological support to SMMEs, as well as supporting a network of Institutes for Advanced Tooling.

SOME OF THE HIGHLIGHTS FOR THE 2009/10 FINANCIAL YEAR

During 2010/11, Tshumisano Trust will migrate to the Technology Innovation Agency (TIA).

Institute for Advanced Tooling

During the 2009/10 financial year, the Institutes for Advanced Tooling (IATs) positioned themselves on a number of international projects emanating from the Resource-Driven Technology Concept Centre (RETECZA), in advanced transport, renewable energy and water purification, in cooperation with local and international partners. RETECZA is a major DST initiative hosted by Tshwane University of Technology developing a whole host of solutions around poverty alleviation with the slogan "Let us build a village!" This uses next-generation technologies to improve the lives of the poor around sustainable living, transportation and renewable energy. During the 2010/11 financial year, the Minister will launch a hydrogen bicycle developed at the centre. The IATs are world leaders in combining a whole host of technological solutions, all based on tooling requirements for individual components. Young people at all levels are experiencing research and innovation on the project, and have been exposed to many local and international experts.

A project for the CSIR Light Metals initiative in respect of a titanium aerospace component was completed and successfully tested. This required the design and manufacture of a wax injection die for the investment cast component (thin-walled) part of the Boeing project. A progression die was designed and manufactured for the provision of the stainless steel food plates (59 000) for Correctional Services through the contracted SMME. Regrettably, the SMME seems to have halted operations, owing to market conditions.

IATs are involved in an Advanced Manufacturing Technology Strategy (AMTS) research project on innovative work holding and chip removal for machining of aerospace components made of light metals. This research forms part of the AMTS project on high performance machining (HPM) of light metals with an emphasis on titanium and selected alloys. The objective of this particular sub-project is to determine the current state-of-the-art practices in work holding and chip removal systems, as well as to conduct experimental services to support HPM of titanium components, to evaluate work holding systems, and to quantify the benefit beyond standard practices in terms of basic cost and lead time factors.

There is a research and development project on implementation of conformal cooling for the product Cutlery Drainer, a project in cooperation with USABCO (Pty) Ltd. The aim of the research is to investigate possible productivity increase by reducing cycle time through better cooling. For that purpose, new manufacturing methods such as selective laser melting are implemented. Through the layer-by-layer construction of the tooling insert (or part of it), the cooling channels can be built conformably to the cavity allowing a previously not possible cooling configuration leading to a better thermal management of the mould and the process as a whole. The insert is currently at Techno Tooling (outsourced) for final operations (drilling for injector pins, Electronic Discharge Machine and polishing). The experiments to validate the thermal management model will be conducted by postgraduates as a part of their PhDs.

IATs are involved in an AMTS funded GreenPac research project together with other project partners from Cape Peninsula University of Technology, CSIR and Experico. The objective of the project is to develop packaging crates of biodegradable material for the export of grapes/plums. The report for phase one dealt with product specification and reflected mainly the literature review. The interim project results were fully accepted. Phase two involves product design and simulation.

A major highlight in scarce skills and capacity development is that the Eastern Cape Institute for Advanced Tooling, in conjunction with the Walter Sisulu University (WSU) Mechanical Engineering Department, has successfully implemented an experiential learning programme with the Mercedes Benz plant in East London. Twelve deserving students were selected to start their training on 25 January 2010. The programme is split into two sections. The first section covers basic workshop skills, which will be facilitated in the Mercedes Benz Training Centre, and the second

section covers aspects relating to the functioning of the main production plant. It has always been a challenge to place students for experiential learning and to ensure that each student receives the correct training as determined by the WSU Department of Mechanical Engineering. Student involvement with the IAT is increasing and the unit is playing an active role in mentoring BTech and Design Diploma students.

Technology Stations Programme

Agroprocessing and Chemical Cluster

The DownStream Chemicals Technology Station at Nelson Mandela Metropolitan University has completed the concept phase of a marine algae-based photobioreactor and biorefinery motivated by the potential of developing a viable algae-based biofuel and chemical industry founded on proven technology and the very favourable climatic and infrastructural conditions in South Africa, particularly, and as a starting point, on the coast of the Eastern Cape.

The chemicals station developed a dreadlock moulder for Lumthera CC, which has become so successful in the market that it is now distributed in the Eastern Cape. A new range of body lotions was developed for Tangedza, which is discussing the possibility of supplying Clicks.

The agroprocessing station is assisting Bokamoso Bakery Cooperative in Limpopo with product development, analytical tests to comply with South African Bureau of Standards specifications, and product and process improvement compliance.

The stations in agroprocessing and chemicals have assisted agricultural cooperatives and agroprocessing enterprises with product development and testing of products to meet SABS specifications, labelling (technical and marketing), advice on factory layout (equipment sourcing), post-harvest

THE PUBLIC ENTITIES REPORTING TO THE DEPARTMENT OF SCIENCE AND TECHNOLOGY

FOR THE YEAR ENDED 31 MARCH 2010

practices (storage conditions that may prolong the shelf life of products), and raw material production.

Primary and Secondary Manufacturing Cluster

A telescopic heel was designed. The Clicker heel is an adjustable shoe, which offers woman of various ages the comfort of changing shoe height to suites their environment at any given time without the need of changing a pair of shoes. This project was presented to Metal Casting Technology Station (MCTS) as a research project. Due to the complexity and nature of the product, various stakeholders were identified and the project was presented to various stations within the TIA family to contribute expertise and resources. The MCTS managed and influenced the direction of the designs, which were outsourced to KM Designs, including metallurgical and mechanical research carried out. This project was carried out in collaboration with other technology stations, including The Product Development Technology Station (which rapid prototyped various samples to optimise the adjusting mechanism), and the Technology Station in Materials and Processing Technologies (which prototyped moulds for plastics and rubber materials on the shoe and produced the main bodies and heel tips). The IAT designed the final tooling for manufacturing these products.

The Technology Station in Clothing and Textiles tested a number of products and materials for a range of SMMEs (clothing and textiles, upholstery, etc.) to verify or improve the quality of the materials and products. A total of 722 tests were done, as compared to 983 tests in the previous financial year. The number of SMMEs for which tests were conducted increased to 76 in 2009/10.

The Technology Station in Reinforced and Moulded Plastics is working in collaboration with a company called Titamed (which produces implants) to design spine implants and the tooling to mould these implants from carbon-reinforced

plastic. During the design process, a minimum of four variants will be designed with the help of engineering analysis software in order to achieve an exact replica of the original intervertebral disk. Innovative implants present large export opportunities.



TECHNOLOGY INNOVATION AGENCY



Mandate

The mandate of the Technology Innovation Agency (TIA), established under the Technology Innovation Agency Act, 2008, is to support the state in stimulating and intensifying

technological innovation in order to improve economic growth and the quality of life of all South Africans by developing and exploiting technological innovations.

SOME OF THE HIGHLIGHTS FOR THE 2009/10 FINANCIAL YEAR

The TIA board appointment was finalised in during the 2009/10 financial year. The inauguration and induction workshop was also conducted to empower the TIA Board members. The TIA Board is in the process of finalising the appointment of the Chief Executive Officer. TIA presented

the strategic and business plans to the Minister of Science and Technology. The strategic plan was also presented to Parliament as required by the Money Bills Amendment Procedure and Related Matters Act, 2009.

SOUTH AFRICAN NATIONAL SPACE AGENCY

Mandate

The mandate of the South African National Space Agency (SANSA), established under the South African National Space Agency Act, 2008, is to promote the peaceful use of space; to support the creation of an environment conducive to industrial development in space technology; to foster research in space science, communications, navigation

and space physics; to advance scientific, engineering and technological competencies and capabilities through human capital development outreach programmes and infrastructure development; and to foster international cooperation in space-related activities.

SOME OF THE HIGHLIGHTS FOR THE 2009/10 FINANCIAL YEAR

The Minister has finalised the process of constituting the Board of the South African National Space Agency (SANSA), and Cabinet has concurred with the appointment

of the Board. During the 2010/11 financial year, the Board will initiate the process of appointing the Chief Executive Officer and other senior officials for the SANSA.

THE PUBLIC ENTITIES REPORTING TO THE DEPARTMENT OF SCIENCE AND TECHNOLOGY

FOR THE YEAR ENDED 31 MARCH 2010

SANSA has been listed as 3A public entity and coordinates projects like the Square Kilometre Array, SALT and South Africa's second satellite, SumbandilaSat. This R26 million 81-kilogramme low-orbit earth observation microsatellite was launched on 17 September 2009. Among the many benefits of SumbandilaSat, it will offer South Africa information that will assist in the effective management of disaster (floods and fires), food security (crop yield estimation), health (prediction of outbreaks), safety and security, water resources and energy security. The satellite will produce images to be used for agriculture, mapping of infrastructure and land use, population measurement and monitoring of dam levels, among other things, and stream this information to the Satellite Applications Centre at Hartebeeshoek west of Pretoria.

The first seven telescopes of the South African Square Kilometre Array (SKA) have been completed and will

serve as testers for the cutting-edge technology needed to build the SKA. All seven dishes of KAT-7, the MeerKAT Precursor Array, have been erected. The first four telescopes in KAT-7 were linked together as an integrated system to produce the first interferometric image of an astronomical object. Interferometric refers to a process when signals collected by the radio antennae are processed into a single, high-resolution telescope system. This is a very significant milestone because it now means that South Africa has a functioning radio interferometer. Technically it could be handed over to astronomers who could begin to do science with it, science that was not possible in Africa before this. In terms of the African SKA bid it demonstrates very clearly the ability of Africans to build such a complex working instrument. Two hundred and fifteen SKA bursaries have been awarded, of which 37 have been awarded to students from the rest of the continent.

SOUTH AFRICAN COUNCIL FOR NATURAL SCIENTIFIC PROFESSIONS



The mandate of the South African Council for Natural Scientific Professions (SACNASP), established under the National Scientific Professions Act, 2003, is to provide for the registration of professional, candidate and certified natural scientists and related matters.

SACNASP works with a variety of stakeholders such as government, industry, higher education and voluntary associations, striving to establish, direct, sustain and ensure

a high level of professionalism and ethical conduct that is internationally acceptable and in the broad interest of the scientific community.

SACNASP activities are not funded by the DST and it does not therefore submit a business plan to DST, although it must provide the Minister with an annual report for tabling in Parliament.

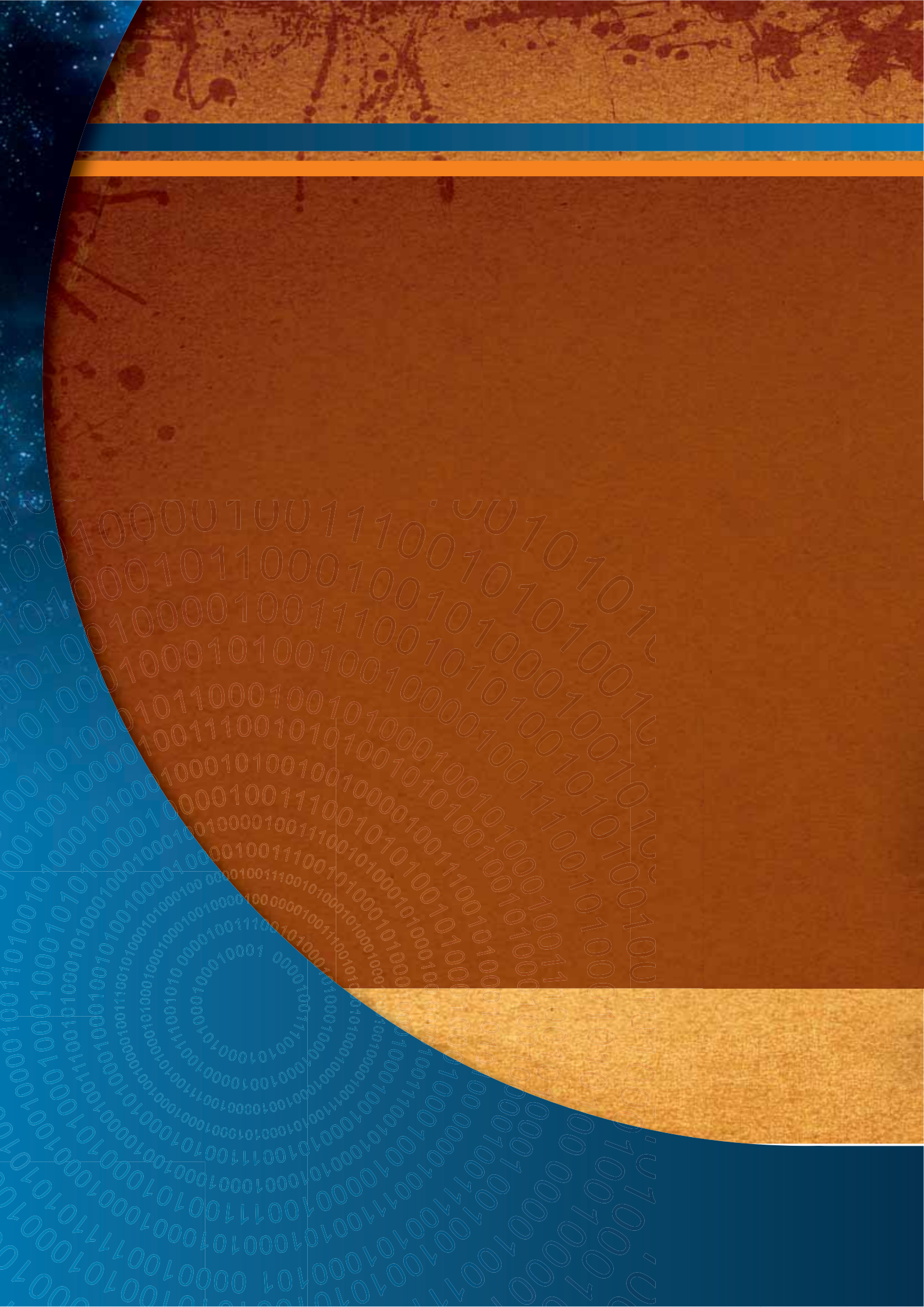
SOME OF THE HIGHLIGHTS FOR THE 2009/10 FINANCIAL YEAR

A survey of the natural scientific programmes at all universities is currently being conducted. This task has been assigned to Dr Mj van der Merwe (consultant) who regularly reports to the Council on the progress of the assignment. A new approach has been launched with the new Council, whereby a core SACNASP Education Committee was appointed as a standing committee. The Education Committee evaluated 114 qualifications, mostly

from universities outside South Africa, and mostly for South Africans who studied abroad and who now wish to register as Professional Natural Scientists. There is also a growing number of non-South Africans who want to register in order to practice their profession in South Africa.

The following table shows a comparison of registered members for the past three years in designated categories:

	March 2008	March 2009	March 2010	Increase
Certificated Natural Scientist	103	108	107	0,01%
Candidate Natural Scientist	158	174	179	0,02%
Professional Natural Scientist	3 386	3 548	3 657	0,03%
TOTAL	3 647	3 830	3 943	0,01%



Report of the Accounting Officer	80
Report of the Auditor-General	94
Audit Committee Report	97
Appropriation Statement	99
Notes to the Appropriation Statement	114
Statement of Financial Performance	116
Statement of Financial Position	117
Statement of Changes in Net Assets	118
Cash Flow Statement	119
Accounting Policies	120
Notes to the Annual Financial Statements	129
Disclosures Notes to the Annual Financial Statements	140
Annexures	149

ANNUAL FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 MARCH 2010

REPORT OF THE ACCOUNTING OFFICER

FOR THE YEAR ENDED 31 MARCH 2010

I. GENERAL REVIEW OF THE STATE OF FINANCIAL AFFAIRS

Owing to the global economic downturn, not all of the Department's budget bids were honoured by the National Treasury during the period under review. The baseline allocation was R4,197 billion. The total allocation was increased by R64,2 million (1,5%), leading to a final appropriation of R4,262 billion. The additional funding was mainly for inflationary adjustments for salaries, capital expenditure, capital transfers and the Square Kilometre Array project.

The Department's total expenditure was R4,184 billion (98,2%) of the final appropriation of R4,262 billion. Transfer payments, including transfers of parliamentary grants to the public entities, accounted for R3,892 billion (93%), while administration expenditure, which comprises goods and services, expenditure on assets (current and capital), and compensation of employees, accounted for R293 million (6,87%).

The table below shows the budget allocation for each of the five main divisions of the Department's vote.

Summary budget expenditure analysis

	Adjusted appropriation	Virement	Final appropriation	Actual expenditure	(Over)/under expenditure
	R'000	R'000	R'000	R'000	R'000
1. Administration	173 569	6 045	179 614	159 123	20 491
2. Research, Development and Innovation	1 143 393	5 155	1 148 548	1 141 349	7 199
3. International Resources and Cooperation	131 963	500	132 463	117 474	14 989
4. Human Capital and Knowledge Systems	1 598 974		1 598 974	1 591 356	7 618
5. Socio-Economic Partnerships	1 213 796	-11 700	1 202 096	1 174 555	27 541
Total	4 261 695	-	4 261 695	4 183 857	77 838

I.1 Important policy decision and strategic issues facing the Department

The Department's policy and strategic decisions are anchored in the National Research and Development Strategy (NRDS) and the Ten-Year Innovation Plan (TYIP), which emanate from the NRDS. The TYIP emphasises accelerating the implementation of research and development (R&D) for the socio-economic benefit of the country, for example through the commercialisation of research results.

The major developments that have resulted from the implementation of the TYIP include the establishment of the Technology Innovation Agency (TIA), the centres of competence (CoCs) and the Intellectual Property Rights from Publicly Financed Research and Development (IPR) Act. TIA will address the challenges of commercialising scientific results and the fragmentation of funding instruments. The CoCs are collaborative research and technology development networks linking universities, research councils and industry, focusing on applied research and technology development with the ultimate objective of commercialising the intellectual property that results. The IPR Act will stimulate innovation and economic growth by identifying commercialisation opportunities arising from publicly funded R&D, giving small enterprises and black-owned entities preferential access to such opportunities.

South Africa has made significant progress in science and technology, but is constrained by the shortage of the highly skilled human capital required to build a globally competitive economy. This is a major difference between South Africa and the countries identified as knowledge-based economies. In the context of global recognition that knowledge is a driver of productivity and economic growth, the TYIP acknowledges the need for South Africa to move towards a knowledge-based economy. The Department therefore supports human capital development in science, engineering and technology, as well as in R&D-based industries (e.g. advanced batteries, titanium products and biocomposites).

To align scientific and technological innovation with sectoral priorities, the Department has introduced new policies aimed at identifying and facilitating research, development and innovation activities needed for growth and competitiveness in strategic economic sectors such as mining, agriculture and tourism. In addition, the technology localisation framework supports the technological capabilities of local manufacturing companies that are potential suppliers to large-scale government infrastructure programmes.

To support sustainable rural economic development and social upliftment, the Department focuses on new approaches in innovation (systems) such as agroprocessing and affordable wireless connectivity solutions. The Department has initiated a range of pilot projects and demonstrator community enterprises in aquaculture and agroprocessing to support small, medium and micro enterprises (SMMEs). Viable and successful pilots, such as the abalone grow-out project, have migrated to other government departments or agencies for large-scale roll-out.

Regional and international cooperation advances science and technology through shared learning. The Department's strategy includes leading South Africa's engagement in the United Nations family of science organisations to maximise participation in major summits and international conventions, strengthening South-South partnerships and accessing international research programmes such as the European Union's Framework Programme for Research and Technological Development.

Research has proven that for a country to benefit economically from R&D, its gross expenditure on research and development has to be at a higher level than the current South African level of approximately 0,93% of GDP. There is growing movement, led by the Department, to aim for R&D expenditure beyond the target of 1% of GDP in 2008, towards 1,5% by 2014 and 2% by 2018. The new targets, for which the repackaging of the NRDS will provide further clarity, have already been considered in the formulation of the Presidency-driven Green Paper on Performance, Monitoring and Evaluation.

1.2 Significant events that took place and major projects undertaken or completed during the period under review

On 1 March 2010, the Minister of Science and Technology launched the R26 million Technology Localisation Programme to support the government's Competitive Supplier Development Programme, which is aimed at increasing the competitiveness of local suppliers through a range of demand and supply-side measures. This will assist local companies to leverage procurement opportunities from government's large-scale infrastructure recapitalisation programme over the next 20 years.

REPORT OF THE ACCOUNTING OFFICER

FOR THE YEAR ENDED 31 MARCH 2010

SumbandilaSat, a South African earth observation microsatellite, was successfully launched on 17 September 2009. SumbandilaSat is the second South African earth observation microsatellite (SunSat, the first, was developed as a technology demonstrator to illustrate the technological know-how in South Africa's microsatellite manufacturing industry). Given the recent success with the South African Amateur Satellite (AMSAT) payload on the satellite, AMSAT (USA) has officially assigned SumbandilaSat the Orbiting Satellite Carrying Amateur Radio (OSCAR) number of SO-67. SumbandilaSat has also been producing satellite imagery that will be used for a variety of applications, ranging from agriculture to air quality management. The full mission operations of the satellite have been handed over to the Satellite Applications Centre at the Council for Scientific and Industrial Research (CSIR).

In March 2010, Minister Pandor and the Northern Cape Premier, Mrs Hazel Jenkins, co-hosted a milestone event to celebrate the completed construction of the seven antennae of the MeerKAT precursor array, the Karoo Array Telescope (KAT-7), at the MeerKAT site near Camarvon in the Northern Cape. KAT-7 is an important milestone in the African bid to host the Square Kilometre Array radio telescope. The construction of KAT-7 follows that of a prototype dish, the Experimental Development Model, at the Hartebeesthoek Radio Astronomy Observatory in Gauteng.

The number of higher education institutions and science councils actually implementing the Research Information Management System (RIMS) increased from three in 2008/09 to 10 in 2009/10. Three universities (the University of the Witwatersrand, the University of the Free State, and the University of Johannesburg) are already using the RIMS platform to meet their reporting requirements to the Department of Higher Education and Training. Six historically black universities are participating in the initial phase of implementation, and three of these have already started with the internal data mapping processes in preparation for full implementation.

The roll-out of the Wireless Mesh Network project, a large-scale pilot aimed at demonstrating affordable alternative broadband connectivity infrastructure for rural communities, is progressing very well. Already, more than 165 schools are connected and 19 young entrepreneurs, also known as village operators, have been trained in business and technical aspects and are currently part of the project roll-out team. So far, the project covers 15 rural clusters, each made up of several villages, in the Moutse, Siyabuswa, Marapyane, Kwaggafontein and KwaMhlanga areas of Mpumalanga and Limpopo.

Minister Pandor and the Premier of Limpopo, Mr Cassel Mathale, officially opened the Indigenous Knowledge System (IKS) Expo in Polokwane on 3 November 2009. The IKS Expo demonstrated the rich biodiversity of Limpopo, and the use and different methods of propagating common medicinal plants found in the province. The event was also a platform for continued debate on national and regional issues facing indigenous and local communities.

The third Southern African Development Community (SADC) IKS workshop in the Republic of Seychelles from 22 to 24 June 2009 was hosted jointly by the governments of Seychelles and South Africa. The workshop provided an opportunity for identifying specific country needs regarding the protection of indigenous knowledge. SADC member states expressed their concern about the misuse and misappropriation of IKS, and identified the possibility of contention over intellectual property rights where indigenous communities overlapped member states.

Phase II of the establishment of the Centre for High Performance Computing (CHPC), one of the key

components of the national cyberinfrastructure system, was completed, and a hybrid supercomputer was installed in September 2009, bringing the total computational capacity of the CHPC to 30 teraflops, and making it the fastest supercomputer in Africa. The South African National Research Network (SANReN), which is responsible for the roll-out of a high-speed broadband network to all academic and research institutions in the country, was awarded a private electronic communications network licence exemption under the Electronic Communications Act, 2005. This exemption allows SANReN to build its own network for private use on condition that any spare capacity is not sold or leased for commercial use. The national network backbone, which connects all major metropolitan areas in the country with a 10 gigabit per second link, was completed.

As part of the implementation of the National Nanotechnology Strategy, and in particular to strengthen the nanoscience knowledge base, the DST successfully hosted the country's first international nanoschool, which attracted about 150 students and lecturers from eight different countries.

1.3 Expenditure trends

Although underspending in 2009/10 increased slightly, from R18,247 million in 2008/09 to R77,838 million (or 1,8% of the Department's budget), total expenditure performance was still above 90%. This was after factoring in adjustments and virements that were effected during the financial year. A breakdown of underexpenditure per Programme is given in the table below.

	2009/10		2008/09	
	Underexpenditure	Percentage	Underexpenditure	Percentage
	R'000	%	R'000	%
1. Administration	20 491	26,3	4 053	22
2. Research, Development and Innovation	7 199	9,2	2 672	15
3. International Resources and Cooperation	14 989	19,3	1 358	7
4. Human Capital and Knowledge Systems	7 618	9,8	1 933	11
5. Socio-Economic Partnerships	27 541	35,4	8 231	45
Total underexpenditure	77 838	1,8	18 247	0,5

The underexpenditure did not affect the Department's programme and service delivery. Factors that contributed to underspending included goods delivered but not paid for, delays in finalising the roll-out of Alfresco (information management system), and the project to establish the secretariat function for the Regional Initiative for Capacity Development. In respect of transfers, slow uptake by implementing agencies was a factor. Detailed information regarding savings of R77,838 million can be viewed in the appropriation statement and notes to the appropriation statement.

Measures that are in place to prevent the above recurring include continuous monitoring of monthly expenditure, the utilisation of the Early Warning System report (this report is used for PFMA compliance purposes and for internal consumption), and monthly management meetings with Programmes, focusing entirely on expenditure performance. Finally, the Department will ensure that expenditure cash flow

REPORT OF THE ACCOUNTING OFFICER

FOR THE YEAR ENDED 31 MARCH 2010

indicates transfers up to December. Transfers and procurements requiring a tender process will not take place in the last three months of the financial year.

1.4 Virement

The virements effected by the Department after the Adjustment Estimates amounted to R16,745 million (or 0,4% of the total budget), comprising R9,7 million and R7,045 million, which were approved by the National Treasury and the Accounting Officer, respectively. Of the R16,745 million, R11,700 million was moved between programmes and R5,045 million was moved within programmes. The Programme with the slowest-spending activity was Socio-Economic Partnerships. Of the savings generated R8,200 million was moved to Research, Development and Innovation to fund, mainly for the South African National Space Agency and the migration activities of the TIA, and R1,500 million was moved to International Cooperation and Resources, mainly for the Women in Science workshop for African nominations.

In addition, R5 million saved on the compensation of employees was used to augment goods and services to fund IT-related expenditure, e.g. Microsoft licences and the internship programme.

1.5 Any other matter - Soccer World Cup clothing and tickets

World Cup Expenditure

For the FIFA 2010 World Cup, the department purchased 12 tickets valued at R25, 200, 550 woolen beanies valued at R33, 931 and 22 Bafana Bafana jerseys valued at R16, 543 in the 2010/11 financial year. Details on how the tickets were distributed are provided in the following table.

Tickets distribution

	Quantity	'000
Tickets acquired after financial year end (30 June 2010)	12	25
Distribution of the tickets		
Level 14	2	4
Level 13	6	13
Guest speakers/Mentors	4	8
Total	12	25

2. SERVICES RENDERED BY THE DEPARTMENT

2.1 Core business of the Department

The DST's core business is to develop R&D policies in line with the NRDS and facilitate and monitor their implementation. The Department therefore does not provide any services to any institution or people on a recoverable basis.

2.2 Inventory

The costing method used for inventory valuation by the DST is the weighted cost method. For replenishing purposes, the DST, through its Supply Chain Management (SCM) unit, uses the Logistical

Information System (LOGIS), which utilises an analytical technique for SCM (provisioning). This system assists the Department to maintain and manage inventory at the lowest levels.

Low levels of inventory are ideal for the DST's operations, as its inventory is not used for reselling. The benefits of this are that cash is rarely locked up in inventory, incidences of obsolescence are rare, and losses due to theft are limited.

3. CAPACITY CONSTRAINTS

During the year under review, the Department experienced high turnover rates in senior management echelons. In mid-year, three deputy director-general (DDG) posts were vacant (for the Chief Operating Officer and the DDGs of Programmes 2 and 4). Chief directors in the affected Programmes took on extra responsibilities and ensured that approved projects were carried out as planned despite the vacancies. In December 2009 the DDG post for Programme 4 was filled by Dr M Qhobela.

The Subprogramme: Human Resources is currently working to ensure that the right candidates are recruited to occupy the other two vacant DDG posts, and it is expected that these posts should be filled before the middle of the 2010/11 financial year.

4. UTILISATION OF DONOR FUNDING

The Department received official development assistance (ODA) from Australia, Canada, the European Community, Finland, France, Germany, the United States of America and Japan. Below is a brief summary of the activities supported by these ODA partners.

4.1 Donor funding received in cash

- **Australia**

In the Science Centre Manager Training project, AusAID provided financial and technical expertise to assist South Africa and Lesotho to expand the pool of science centre managers, which is critical for the successful roll-out of the national plan for the establishment of additional science centres. The Science Centre Manager Training project had two phases. The first entailed the training of 25 prospective science centre managers in South Africa, in partnership with the Australian National University. The second phase saw the top seven students from the first phase studying in Australia towards a certificate qualification in science centre management. The funding amounted to R792 000. The project, funded from December 2008 to November 2009, has been finalised and the final report is awaited.

- **Canada**

The Epidemiological Modelling and Analysis in South Africa initiative includes financial support to the South African Centre of Excellence in Epidemiological Modelling and Analysis of approximately R20 million over five years. In the 2009/10 financial year R3,2 million was expended. In partnership with Statistics Canada and the World Health Organization, the project aims to develop innovative quantitative methods to support a more integrated, evidence-based national response to the

REPORT OF THE ACCOUNTING OFFICER

FOR THE YEAR ENDED 31 MARCH 2010

HIV/Aids epidemic (and major related diseases such as tuberculosis). The project was initiated in November 2008 and was rated very highly by the Canadian International Development Agency (CIDA).

- **Finland**

- Biotechnology agreement between South Africa and Finland (BIOFISA)

BIOFISA is a three-year programme that is jointly-funded by the Finnish government and the DST to build bioscience research capacity in Southern Africa. The programme is managed by the Southern Africa Network for Biosciences, which manages the funded projects in all biosciences nodes in Southern Africa. The programme office is based at the CSIR. The project is also supported by the New Partnership for Africa's Development. The total amount received and expended was R4,242 million.

- Cooperation Framework on Innovation Systems between South Africa and Finland (COFISA).

The main objective of this programme is to facilitate strengthening the coordination of the National System of Innovation (NSI) by supporting the development of provincial and local systems of innovation, especially in the Eastern Cape, Western Cape and Gauteng. The total amount received and expended was R10,716 million.

- Science and Technology in ICT Framework Programme (SAFIPA)

SAFIPA aims to narrow the digital divide by introducing interventions that will help South Africa become an inclusive knowledge society with a strong ICT brand, reflecting research excellence and demonstrating improvements in quality of life and economic competitiveness. The total amount received and expended was R8,727 million.

- **European Union (EU)**

Approximately R50 million was received by the NSI through the participation of South African researchers in the EU Framework Programme, including projects that are managed directly by the DST. These are the Network for the Coordination and Advancement of Sub-Saharan Africa-European Union Science and Technology Cooperation (CAAST-Net), with R332 000 received and R154 000 spent; and the strengthening of the European South African Science and Technology Advancement Programme, with R4,080 million received and R1,176 million spent.

- **Sector Budget Support Programme**

The EU has allocated a total of 30 million to support the DST in its poverty alleviation initiatives over a period of three years. This allocation will see the Department supporting, among other things, the use of scientific innovation to provide sustainable water service delivery in rural areas, and the use of ICT to develop and empower rural communities through employment creation and human capacity development. A total of R24,2 million was received, and R22,192 million was spent.

- **United State of America**

USAID funded a project on indigenous knowledge (to establish regional guidelines and frameworks for the implementation of the 2007 to 2009 SADC IKS action plan). The total amount received and

spent was R308 000. In a trilateral partnership with the Malawian Government on a potato pathogen project, technical assistance was provided to the Malawian government and higher education sector towards an increased production of good quality seed for high-yielding potato varieties in Malawi. The total amount received and spent was R1 67 000.

4.2 Donor funding received in kind

- **Canada**

A delegation of eight South African experts in the area of Research Chair Management were trained in Canada through CIDA's capacity building programme. The value of this in-kind support amounted to R327 768.

- **France**

France has committed another R14,850 million over three years (R4,95 million per annum) for the extension of the French South African Technical Institute in Electronics (F'SATIE) Scientific Director contract.

- **Japan**

A programme providing productivity training to increase the employability level of science and technology graduates received an additional in-kind commitment to the value of R400 000 for two training sessions in this financial year.

A technical assistant was placed at the DST to assist in improving the management of the bilateral relationship between the two countries. This in-kind support is valued at R1,7 million. The contract will end in June 2010, and a new placement is already being negotiated.

Volunteers were placed in the Eastern Cape, North West and Limpopo to assist science centres with developing teaching material for science and mathematics education, and to develop exhibitions. This assistance is valued at R3,5 million.

Hitachi Scholarships for two South African electrical engineers were secured, valued at a total of approximately R300 000.

- **Germany**

Germany agreed to the placement of a German technical assistant at the DST for a period of two years to assist in improving the management of the bilateral relationship between the two countries. The total in-kind contribution from Germany for the year under review is R449 000. This contract will come to an end in October 2010, and discussions for a replacement have already begun.

REPORT OF THE ACCOUNTING OFFICER

FOR THE YEAR ENDED 31 MARCH 2010

5. PUBLIC ENTITIES

The public entities that were funded through the DST's vote in 2009/10 are as follows:

- **Human Sciences Research Council (R166,2 million)**

The Human Science Research Council (HSRC) was established in terms of the Human Sciences Research Act, 1968. It supports development in South Africa and Africa by coordinating and conducting applied social science research projects. Its research structures and activities are aligned to South Africa's national development priorities, notably poverty reduction through economic development, skills enhancement, job creation, the elimination of discrimination and inequalities, and effective service delivery. The HSRC will play a key role in the implementation of the Ten-Year Innovation Plan, particularly in relation to the Human and Social Dynamics Grand Challenge.

- **National Research Foundation (R692,1 million)**

The National Research Foundation (NRF) was established by the National Research Foundation Act, 1998. The NRF supports and promotes research through funding, human resource development, and the provision of the necessary research facilities for the creation of knowledge, innovation and development in all fields of science and technology, including indigenous knowledge. In addition to the agency function it performs for the DST, the NRF acts as a service provider for the Departments of Water Affairs and Environmental Affairs in the area of marine research, the Department of Trade and Industry in respect of the Technology and Human Resource for Industry Programme, and the Department of Labour in respect of the Scarce Skills Development Fund.

- **Africa Institute of South Africa (R29,3 million)**

The Africa Institute of South Africa was established in terms of the Africa Institute of South Africa Act, 2001. It conducts research to support policy development, provides training programmes, and participates in and maintains networks for peace, development and prosperity in Africa. Its primary focus is on political, socio-economic, international and development issues in contemporary Africa. It contributes to the goals of the NSI through research programmes that impact on knowledge production and human resource development in African studies.

- **Council for Science and Industrial Research (R599,4 million)**

The CSIR was established in terms of the Scientific Research Council Act, 1988. The objectives of the CSIR are to foster industrial and scientific developments in the national interest, through directed and particularly multidisciplinary research and technological innovation, either by itself or in cooperation with principals from the private or public sectors.

- **Tshumisano Trust (R36,4 million)**

Tshumisano Trust is a joint venture of the DST, with participation by Germany's Gesellschaft für Technische Zusammenarbeit (GTZ), universities of technology and the Department of Labour. The core business of Tshumisano is to leverage skills and product development support within universities of technology so that technology stations can provide support to small and medium-sized businesses.

- **Academy of Science of South Africa (R4,6 million)**

The Academy of Science of South Africa (ASSAf) was established in terms of the Academy of Science of South Africa Act, 2001. ASSAf promotes common ground for scientific thinking across all disciplines, encourages and promotes innovative and independent scientific thinking, promotes the optimum development of the intellectual capacity of all people, and links South Africa with scientific communities at the highest levels, and the African continent in particular. In addition, it investigates matters of public interest concerning science and manages the *South African Journal of Science*.

6. OTHER ORGANISATIONS TO WHICH TRANSFER PAYMENTS WERE MADE

6.1 Programme 1: Administration

Organisation/theme	R'000	Reason for transfer payment
Institution and Programme support	553	Assistance for research into science activities
Total	553	

6.2 Programme 2: Research, Development and Innovation

Organisation/theme	R'000	Reason for transfer payment
Innovation Fund	151,229	For Innovation Fund to fund innovative initiatives
HIV/Aids prevention and treatment technologies	17,228	Research into technologies to combat and prevent HIV/Aids
Space Science	62,271	R&D into space science initiatives
Square Kilometre Array	502,293	R&D into SKA priorities
International Centre for Genetic Engineering and Biotechnology	9,930	R&D into biotechnology initiatives
Hydrogen Strategy	95,169	Research in hydrogen and energy sector
Health Innovation	35,587	Research into health initiatives
Biotechnology Strategy	179,966	Implementation of the Biotechnology Strategy
Biofuels	5,000	Research into the biofuels arena
Energy Security Grand Challenge	39,828	Research into the energy sector
Innovation Projects	10,000	Research into innovation
Total	1,108,501	

REPORT OF THE ACCOUNTING OFFICER

FOR THE YEAR ENDED 31 MARCH 2010

6.3 Programme 3: International Cooperation and Resources

Organisation/theme	R'000	Reasons for transfer payment
Global Science: Bilateral Cooperation	9,000	Growing international partnerships with the aim of leveraging resources for R&D and human capital.
Global Science: International Resources	27,012	Growing international partnerships with the aim of leveraging resources for R&D and human capital.
Global Science: Multilateral Cooperation	10,350	Growing international partnerships with the aim of leveraging resources for R&D and human capital.
Total	46,362	

6.4 Programme 4: Human Capital and Knowledge Systems

Organisation/theme	R'000	Reasons for transfer payment
Human Resource Development	285,180	Implementation of human resource development initiatives
Leamerships	6,746	Implementation of learnership activities
Academies	9,893	Parliamentary grant
Emerging Research Areas	49,299	R&D into emerging research areas
Indigenous Knowledge Systems	15,929	Implementation of IKS Strategy
Science and Youth	51,325	Research and initiatives towards youth involvement in the science arena
Science Themes	58,970	R&D into science initiatives
Women in Science	400	Continuation of women in science activities
Technology Top 100	2,600	To promote technological advancement for SMME
Centre for High Performance Computing	62,763	R&D into science initiatives
R&D Infrastructure	201,815	Infrastructure development
South African National Research Network	93,474	Connectivity of research institutions
National Nanotechnology Centres	34,905	R&D into nanotechnology initiatives
Total	873,299	

6.5 Programme 5: Socio-Economic Partnerships

Organisation/theme	R'000	Reasons for transfer payment
Advanced Manufacturing Technology Strategy	47,229	Implementation of the Advanced Manufacturing Technology Strategy
Global Change Science and Technology	20,374	Implementation of Global Change Grand Challenge – Planning support and 10-year research plan
Human and Social Development Dynamics	11,414	Policy and institution building (10-year plan and centres of excellence)
Local Manufacturing Capacity	25,111	Cold-Chain Technologies Project (Fresh Produce Exporters' Forum and Agricultural Research Council); COFISA-DST partnership; advocacy in provinces
Local Systems of Innovation	7,205	Cold-Chain Technologies Project (FPEF and ARC); COFISA-DST partnership; advocacy in provinces

Organisation/theme	R'000	Reasons for transfer payment
Natural Resources and Public Assets	55,296	Maintain and grow genebanks (ARC), South African Biosystematics Initiative, South African Biodiversity Information Facility, Biobank
Quality of Life Nuclear Technologies	3,765	Promote uptake of nuclear technologies
Resource-Based Industries	31,548	R&D of resource-based industries initiatives
Science and Technology Indicators	2,000	Development of science and technology indicators
South African Research Chairs Initiative for Human Sciences	21,349	Establishment of research chairs in the science system
Technology for Poverty Alleviation	25,588	Poverty alleviation initiatives
Technology for Sustainable Livelihoods	32,856	Poverty alleviation initiatives
Information Communication Technology	55,586	Implementation of the ICT strategy
Total	339,321	

7. PUBLIC-PRIVATE PARTNERSHIPS

No public-private partnership agreements were entered into.

8. CORPORATE GOVERNANCE ARRANGEMENTS

The following corporate governance frameworks/procedures form the main pillars of the Department's corporate governance arrangements. They are influenced by and based on legislation as well as best practice.

- Risk Management
- Internal Audit
- Audit and Risk Management Committee
- Fraud Prevention Strategy
- Various operational committees
- Procedures and policies guiding the operational activities of the Department.

Risk Management in the Department has taken centre stage, with risk a standing item in Executive Committee meetings. Risk champions for 2009/10 were appointed and a risk register was developed.

Internal Audit Services has been fully capacitated, and has six employees, headed by the Chief Audit Executive. The Department will review the need to use the services of the consultant firm that assisted with the transfer of skills to this unit.

During the year under review, Mr L Kaplan, a member of the Audit and Risk Management Committee, was appointed the new chairperson after the resignation of the former chair, Mr V Magan, and Dr B Tema was appointed as a new member. The appointment of this committee meets PFMA requirements, and operates in terms of its charter.

Procedures and policies on the management of bids, and certain human resource requirements assist in preventing conflicts of interest. For example, all members of the bid adjudication and bid evaluation committees are required

REPORT OF THE ACCOUNTING OFFICER

FOR THE YEAR ENDED 31 MARCH 2010

to complete a declaration of interest form prior to the adjudication or evaluation of bids. All employees are expected to complete a disclosure of information form on appointment.

The newly appointed Fraud Prevention Committee is currently reviewing the DST's Fraud Prevention Strategy.

9. ACTIVITIES DISCONTINUED OR TO BE DISCONTINUED

No activities have or are to be discontinued.

10. NEW/PROPOSED ACTIVITIES

The Technology Innovation Agency (TIA) will be operational with effect from 1 April 2010. The National Treasury has approved the creation of a line item for the budget for this entity. The TIA board, chaired by Dr Mamphela Ramphele, is in place. TIA's budget and business plan for 2010/11 have been approved by the TIA board and the Minister.

11. ASSET MANAGEMENT

Assets policies and procedures are in place. Verification of assets is conducted twice a year to ensure accountability and proper management of the DST's assets. The Asset Management and Security units have stringent measures in place to ensure control over the management of assets.

12. EVENTS AFTER THE REPORTING DATE

None.

13. PERFORMANCE INFORMATION

DST has a planning cycle framework which ensures that strategic planning is systematised and synchronised with budgeting, reporting, monitoring and evaluation of the DST deliverables. The framework provides for performance reporting to occur quarterly and annually. The quarterly reports are compiled and presented to the Executive Committee for approval, after which a submission is sent to the Minister. The annual performance review is done according to National Treasury regulations, follows an internal approval process, and is then submitted to the Auditor-General.

14. STANDING COMMITTEE ON PUBLIC ACCOUNTS (SCOPA) RESOLUTIONS

No issues were raised by SCOPA regarding the DST.

15. PRIOR MODIFICATIONS TO AUDIT REPORTS

The Auditor-General found no matters of significance with respect to the DST's administration.

16. EXEMPTIONS AND DEVIATIONS RECEIVED FROM THE NATIONAL TREASURY

No exemptions or deviations were received from the National Treasury.

17. OTHER

During 2009/10, Internal Audit Services did performance audits on the Regional Initiative for Capacity Development (RICAD) and the Geysers projects.

17.1 RICAD

During September 2009, the DST cancelled its contract with Brentlana for the management of the RICAD project as a result of Brentlana's alleged failure to perform. The DST also claimed a refund of all monies (amounting to R2 391 226) already paid to Brentlana under the contract. Brentlana disputed the cancellation of contract and referred the matter to arbitration. The arbitration proceedings commenced, but have not been finalised, and a contingent liability cannot yet be determined.

17.2 Solar distillers and geysers for sustainable environment (Northern Cape)

The project to provide solar distillers and geysers for sustainable environment in the Northern Cape was terminated. Solar geysers were installed, but the manufacturing and uptake of the project did not prove sustainable. Management responded to the audit findings and the departmental site visits and terminated the project with legal action to recoup funds. The implementing agency, Nawasan, refunded the DST R289 590 being the balance of (unspent) funds, and the project was closed.

18. APPROVAL

The Annual Financial Statements set out on pages 99 to 161 have been approved by the Accounting Officer.



Dr PM Mjwara

Accounting Officer

Date: 31 July 2010

REPORT OF THE AUDITOR GENERAL

FOR THE YEAR ENDED 31 MARCH 2010

Report of the Auditor-General to Parliament on the financial statements of Vote no. 31: Department of Science and Technology for the year ended 31 March 2010

REPORT ON THE FINANCIAL STATEMENTS

Introduction

I have audited the accompanying financial statements of the Department of Science and Technology, which comprise the appropriation statement, the statement of financial position as at 31 March 2010, the 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 information, set out on pages 99 to 161.

Accounting officer's responsibility 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 of accounting determined by the National Treasury, as set out in accounting policy note 1.1 and in the manner required by the Public Finance Management Act of South Africa (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; and making accounting estimates that are reasonable under the circumstances.

Auditor-General's responsibility

As required by section 188 of the Constitution of South Africa and section 4 of the Public Audit Act of South Africa, my responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with International Standards on Auditing and *General Notice 1570 of 2009* issued in *Government Gazette 32758 of 27 November 2009*. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

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

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

Opinion

In my opinion, the financial statements present fairly, in all material respects, the financial position of the Department of Science and Technology as at 31 March 2010, and its financial performance and its cash flows for the year then ended in accordance with the modified cash basis of accounting determined by the National Treasury, as set out in accounting policy note 1.1 and in the manner required by the Public Finance Management Act of South Africa.

Emphasis of matter

I draw attention to the matters below. My opinion is not modified in respect of these matters:

Basis of accounting

The department's policy is to prepare financial statements on the modified cash basis of accounting determined by the National Treasury, described in accounting policy note 1.1.

Restatement of corresponding figures

As disclosed in note 26.3 to the financial statements, the corresponding figures for 31 March 2009 have been restated during the year ended 31 March 2010 in the financial statements of the Department of Science and Technology at, and for the year ended, 31 March 2009.

Additional matters

I draw attention to the matter below. My opinion is not modified in respect of this matter:

The supplementary information set out in Annexures 1A to 6 does not form part of the financial statements and is presented as additional information. I have not audited these schedules and accordingly I do not express an opinion thereon.

REPORT ON OTHER LEGAL AND REGULATORY REQUIREMENTS

In terms of the PAA of South Africa and General notice 1570 of 2009, issued in *Government Gazette No. 32758 of 27 November 2009* I include below my findings on the report on predetermined objectives, compliance with the PFMA, Public Service Act (PSA), Preferential Procurement Policy Framework Act (PPPFA) and financial management (internal control) but not for the purposes of expressing an opinion on the predetermined objectives.

Predetermined objectives

Usefulness of reported performance information

The following criteria were used to assess the usefulness of the planned and reported performance:

- Consistency: Has the department reported on its performance with regard to its objectives, indicators and targets in its approved strategic plan, i.e. are the objectives, indicators and targets consistent between planning and reporting documents?

REPORT OF THE AUDITOR GENERAL

FOR THE YEAR ENDED 31 MARCH 2010

The following audit finding relates to the above criteria:

Incomplete reporting on all predetermined objectives, indicators and targets

The actual achievements with regard to 56% of all planned indicators and targets specified in the strategic plan for the year under review, for the selected programmes were not completely reported in the annual performance review report.

Compliance with laws and regulations

No matters to report.

INTERNAL CONTROL

I considered internal control relevant to my audit of the financial statements and the report on predetermined objectives and compliance with the PFMA, PSA and PPPFA, but not for the purposes of expressing an opinion on the effectiveness of internal control. The matters reported below are limited to the deficiencies identified during the audit.

- **Financial and performance management**

Manual controls are not designed to ensure that all transactions and performance information are completely recorded and accurately classified.

OTHER REPORTS

Investigations conducted by the department

Investigation in progress

The Regional Initiative for Capacity Development (RICAD) project was terminated due to alleged failure to perform by the service provider. The Department has claimed a refund of all monies already paid to the service provider and the matter has been referred to arbitration.

Investigation completed during the financial year

The Solar distillers and geysers for sustainable environment project was terminated due to the unavailability of the project, and following investigations the department has recovered all the unspent funds.

Auditor-General



**AUDITOR - GENERAL
SOUTH AFRICA**

Auditing to build public confidence

Pretoria

29 July 2010

Report of the Audit Committee

1. OVERVIEW

We are pleased to present our report for the financial year ended 31 March 2010.

2. AUDIT COMMITTEE MEMBERS AND ATTENDANCE

The Audit Committee (AC) consists of the members listed hereunder. It meets as frequently as mandated by its approved Charter and also as often as it deems necessary.

During the period under review, there were five meetings held and they were attended as follows:

Name of the Member	Position	Date Appointed	Number of meetings attended
Mr Viren Magan	Chairperson until 31 August 2009	September 2006 Ended 31 August 2009	3 out of 5
Mr Leon Kaplan	External Member and Chairperson from 1 Sep 2009	September 2006	5 out of 5
Dr P Mjwara	Ex officio member (Accounting Officer)	June 2006	4 out of 5
Mr Mike Mohohlo	External Member	August 2008	5 out of 5
Dr Bothlale Tema	External Member	May 2009	5 out of 5

3. AUDIT COMMITTEE RESPONSIBILITY

The AC reports that it has complied with all its responsibilities in terms of Section 38(1) (a) read with Sections 76 and 77 of the Public Finance Management Act (PFMA) as well as with Treasury Regulations 3.1. It has adopted appropriate formal terms of reference as its AC Charter, has regulated its affairs in compliance therewith, and has discharged its responsibilities as contained therein.

4. THE EFFECTIVENESS OF INTERNAL CONTROL

In line with the PFMA, the Internal Audit function provides the AC and management with assurance that the internal controls are appropriate and effective. This is achieved by means of the Department's risk management process, as well as the identification of corrective actions and suggested enhancements to the controls and processes.

The AC is satisfied that the Internal Audit function, which is assisted in terms of a co-sourced arrangement with an external service provider, operates efficiently and effectively.

5. GOVERNANCE

5.1 Risk Management

An updated formal risk assessment was undertaken by the Department for the year ended 31 March 2010. Internal Audit used the results of that risk assessment to prepare its three-year rolling strategic

AUDIT COMMITTEE REPORT

FOR THE YEAR ENDED 31 MARCH 2010

plan and its annual operating audit plan. The AC monitored the significant risks faced by the Department and is satisfied that those risks were reduced to an acceptable level. The Department implemented a risk management strategy which includes a fraud prevention plan.

6. SUBMISSION OF IN-YEAR MANAGEMENT AND MONTHLY/ QUARTERLY REPORTS IN TERMS OF THE PFMA AND THE DIVISION OF REVENUE ACT.

The AC is satisfied with the content and quality of monthly and quarterly reports prepared and issued by the Accounting Officer and management during the year under review.

7. EVALUATION OF FINANCIAL STATEMENTS

The AC

- reviewed and discussed, with the Auditor General (AG) and the Accounting Officer, the audited Annual Financial Statements (AFS) to be included in the annual report;
- reviewed the AG's management letter and management's response thereto; and
- reviewed significant adjustments resulting from the audit.

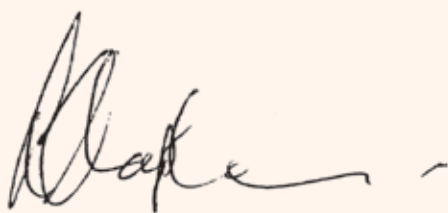
The AC concurs with and accepts the AG's conclusions on the AFS and is of the opinion that the audited AFS be accepted and read together with the report of the AG.

Annual Performance Review

The AC has considered the performance information reports submitted to the AG for review. The AC is unable to express an opinion as to whether the Department will achieve its performance objectives.

8. APPRECIATION

The AC expresses its appreciation to the Accounting Officer, the senior management team and the AG for their contributions during the year under review.



Mr L Kaplan

Chairperson of the Audit Committee

Date: 27 July 2010

APPROPRIATION STATEMENT

FOR THE YEAR ENDED 31 MARCH 2010

ANNUAL REPORT 2009/10

APPROPRIATION PER PROGRAMME									
	2009/10							2008/09	
APPROPRIATION STATEMENT	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
1. Administration									
Current payment	169,049	-	3,075	172,124	151,660	20,464	88.1%	131,713	127,141
Transfers and subsidies	1,000	-	-	1,000	1,005	(5)	100.5%	3,176	2,929
Payment for capital assets	3,520	-	2,970	6,490	6,458	32	99.5%	2,365	2,124
2. Research, Development and Innovation									
Current payment	40,941	-	(3,212)	37,729	32,509	5,220	86.2%	27,278	26,704
Transfers and subsidies	1,102,227	-	8,200	1,110,427	1,108,500	1,927	99.8%	830,330	829,261
Payment for capital assets	225	-	167	392	340	52	86.7%	238	216
3. International Cooperation and Resources									
Current payment	55,256	-	489	55,745	41,596	14,149	74.6%	54,354	53,090
Transfers and subsidies	76,417	-	-	76,417	75,641	776	99.0%	86,985	86,913
Payment for capital assets	290	-	11	301	237	64	78.7%	528	506
4. Human Capital and Knowledge Systems									
Current payment	32,877	-	(138)	32,739	25,688	7,051	78.5%	26,102	24,407
Transfers and subsidies	1,565,997	-	-	1,565,997	1,565,430	567	100.0%	1,430,601	1,430,386

APPROPRIATION STATEMENT

FOR THE YEAR ENDED 31 MARCH 2010

APPROPRIATION PER PROGRAMME									
	2009/10							2008/09	
APPROPRIATION STATEMENT	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
Payment for capital assets	100	-	138	238	238	-	100.0%	239	216
5. Socio-Economic Partnerships									
Current payment	44,267	-	(2,080)	42,187	32,870	9,317	77.9%	31,596	28,923
Transfers and subsidies	1,169,179	-	(9,700)	1,159,479	1,141,297	18,182	98.4%	1,095,931	1,090,391
Payment for capital assets	350	-	80	430	388	42	90.2%	279	261
Subtotal	4,261,695	-	-	4,261,695	4,183,857	77,838	98.2%	3,721,715	3,703,468
Statutory Appropriation									
Current payment	-	-	-	-	-	-	-	-	-
Transfers and subsidies	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
TOTAL	4,261,695	-	-	4,261,695	4,183,857	77,838	98.2%	3,721,715	3,703,468

	2009/10		2008/09	
	Final appropriation	Actual expenditure	Final appropriation	Actual expenditure
TOTAL (brought forward)				
Reconciliation with Statement of Financial Performance				
ADD				
Departmental receipts	1,585		333	
Direct Exchequer receipts	-		-	
Aid assistance	56,837		25,298	
Actual amounts per Statement of Financial Performance (Total Revenue)	4,320,117		3,747,346	

	2009/10		2008/09	
	Final appropriation	Actual expenditure	Final appropriation	Actual expenditure
ADD				
Aid assistance		51,526		18,125
Direct Exchequer payments		-		-
Prior year unauthorised expenditure approved without funding		-		-
Actual amounts per Statement of Financial Performance (Total Expenditure)		4,235,383		3,721,593

APPROPRIATION PER ECONOMIC CLASSIFICATION									
	2009/10							2008/09	
	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	200,160	-	(5,000)	195,160	167,487	27,673	85.8%	150,340	144,869
Goods and services	142,230	-	3,228	145,458	116,754	28,704	80.3%	120,628	115,321
Interest and rent on land	-	-	-	-	-	-	-	-	-
Financial transactions in assets and liabilities	-	-	-	-	80	(80)	-	75	75
Transfers and subsidies									
Provinces and municipalities	-	-	-	-	-	-	-	-	-
Departmental agencies and accounts	2,230,799	-	(2,700)	2,228,099	2,310,883	(82,784)	103.7%	1,871,656	1,866,540
Universities and universities of technology	119,875	-	-	119,875	113,447	6,428	94.6%	69,452	69,452
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	1,204,031	-	1,200	1,205,231	1,183,335	21,896	98.2%	1,075,205	1,075,099
Non-profit institutions	360,115	-	-	360,115	283,507	76,608	78.7%	429,945	428,439
Households	-	-	-	-	702	(702)	-	765	350

APPROPRIATION STATEMENT

FOR THE YEAR ENDED 31 MARCH 2010

APPROPRIATION PER ECONOMIC CLASSIFICATION									
	2009/10							2008/09	
	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
Payments for capital assets									
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	4,485	-	3,272	7,757	7,662	95	98.8%	3,649	3,323
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Total	4,261,695	-	-	4,261,695	4,183,857	77,838	98.2%	3,721,715	3,703,468

DETAIL PER PROGRAMME

FOR THE YEAR ENDED 31 MARCH 2010

ANNUAL REPORT 2009/10

Detail per subprogramme	2009/10							2008/09	
	Adjusted appropriation R'000	Shifting of funds R'000	Virement R'000	Final appropriation R'000	Actual expenditure R'000	Variance R'000	Expenditure as % of final appropriation %	Final appropriation R'000	Actual expenditure R'000
1.1 Minister									
Current payment	1,709	-	63	1,772	1,772	-	100.0%	1,609	1,584
Transfers and subsidies	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
1.2 Deputy Minister									
Current payment	1,407	-	13	1,420	1,421	(1)	100.1%	1,350	1,306
Transfers and subsidies	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
1.3 Management									
Current payment	49,831	-	4,303	54,134	54,169	(35)	100.1%	15,240	14,214
Transfers and subsidies	1,000	-	-	1,000	1,005	(5)	100.5%	-	-
Payment for capital assets	120	-	2,894	3,014	3,033	(19)	100.6%	17	13
1.4 Corporate Services									
Current payment	103,294	-	(1,304)	101,990	86,968	15,022	85.3%	105,806	105,153
Transfers and subsidies	-	-	-	-	-	-	-	3,176	2,929
Payment for capital assets	3,260	-	76	3,336	3,317	19	99.4%	2,348	2,111
1.5 Governance									
Current payment	9,513	-	-	9,513	5,664	3,849	59.5%	4,561	3,445
Transfers and subsidies	-	-	-	-	-	-	-	-	-
Payment for capital assets	140	-	-	140	108	32	77.1%	-	-

DETAIL PER PROGRAMME

FOR THE YEAR ENDED 31 MARCH 2010

Detail per subprogramme	2009/10							2008/09	
	Adjusted appropriation R'000	Shifting of funds R'000	Virement R'000	Final appropriation R'000	Actual expenditure R'000	Variance R'000	Expenditure as % of final appropriation %	Final appropriation R'000	Actual expenditure R'000
1.6 Property Management									
Current payment	3,295	-	-	3,295	1,666	1,629	50.6%	3,147	1,439
Transfers and subsidies	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
Total	173,569	-	6,045	179,614	159,123	20,491	88.6%	137,254	132,194

Economic classification	2009/10							2008/09	
	Adjusted appropriation R'000	Shifting of funds R'000	Virement R'000	Final appropriation R'000	Actual expenditure R'000	Variance R'000	Expenditure as % of final appropriation %	Final appropriation R'000	Actual expenditure R'000
Current payments									
Compensation of employees	96,810	-	(1,000)	95,810	82,638	13,172	86.3%	68,262	65,488
Goods and services	72,239	-	4,107	76,346	68,945	7,401	90.3%	63,379	61,581
Interest and rent on land	-	-	-	-	-	-	-	-	-
Financial transactions in assets and liabilities	-	-	-	-	77	(77)	-	72	72
Transfers and subsidies to:									
Provinces and municipalities	-	-	-	-	-	-	-	-	-
Departmental agencies and accounts	-	-	-	-	-	-	-	-	-
Universities and universities of technology	55	-	-	55	135	(80)	245.5%	49	49

Economic classification	2009/10							2008/09		
	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	
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-	
Public corporations and private enterprises	-	-	-	-	-	-	-	-	-	
Non-profit institutions	945	-	-	945	418	527	44.2%	2,915	2,880	
Households	-	-	-	-	452	(452)	-	212	-	
Payment for capital assets										
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-	
Machinery and equipment	3,520	-	2,938	6,458	6,458	-	100.0%	2,365	2,124	
Biological assets	-	-	-	-	-	-	-	-	-	
Software and other intangible assets	-	-	-	-	-	-	-	-	-	
Land and subsoil assets	-	-	-	-	-	-	-	-	-	
Total	173,569	-	6,045	179,614	159,123	20,491	88.6%	137,254	132,194	

Detail per subprogramme	2009/10							2008/09	
	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 Space Science

Current payment	9,762	-	680	10,442	10,442	-	100.0%	10,102	10,051
Transfers and subsidies	564,615	-	1,200	565,815	564,564	1,251	99.8%	335,066	334,105
Payment for capital assets	50	-	110	160	160	-	100.0%	57	49

DETAIL PER PROGRAMME

FOR THE YEAR ENDED 31 MARCH 2010

Detail per subprogramme	2009/10							2008/09	
	Adjusted appropriation R'000	Shifting of funds R'000	Virement R'000	Final appropriation R'000	Actual expenditure R'000	Variance R'000	Expenditure as % of final appropriation %	Final appropriation R'000	Actual expenditure R'000
2.2 Hydrogen and Energy									
Current payment	9,685	-	(761)	8,924	6,656	2,268	74.6%	8,348	8,268
Transfers and subsidies	140,225	-	-	140,225	139,997	228	99.8%	275,206	275,198
Payment for capital assets	75	-	27	102	102	-	100.0%	70	62
2.3 Biotechnology and Health									
Current payment	16,111	-	(2,370)	13,741	11,173	2,568	81.3%	8,828	8,385
Transfers and subsidies	243,158	-	-	243,158	242,710	448	99.8%	220,058	219,958
Payment for capital assets	75	-	-	75	23	52	30.7%	111	105
2.4 Innovation Planning and Instruments									
Current payment	5,383	-	(761)	4,622	4,238	384	91.7%	-	-
Transfers and subsidies	154,229	-	7,000	161,229	161,229	-	100.0%	-	-
Payment for capital assets	25	-	30	55	55	-	100.0%	-	-
Total	1,143,393	-	5,155	1,148,548	1,141,349	7,199	99.4%	857,846	856,181

Economic classification	2009/10							2008/09	
	Adjusted appropriation R'000	Shifting of funds R'000	Virement R'000	Final appropriation R'000	Actual expenditure R'000	Variance R'000	Expenditure as % of final appropriation %	Final appropriation R'000	Actual expenditure R'000
Current payments									
Compensation of employees	21,339	-	(1,000)	20,339	17,137	3,202	84.3%	9,534	10,052
Goods and services	19,602	-	(2,161)	17,441	15,371	2,070	88.1%	17,743	16,651
Interest and rent on land	-	-	-	-	-	-	-	-	-
Financial transactions in assets and liabilities	-	-	-	-	-	-	-		
Transfers and subsidies to:									
Provinces and municipalities	-	-	-	-	-	-	-	-	-
Departmental agencies and accounts	698,248	-	7000	705,248	739,015	(33,767)	104.8%	458,526	458,526
Universities and universities of technology	87,347	-	-	87,347	82,853	4,494	94.9%	54,148	54,148
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	73,625	-	1,200	74,825	103,423	(28,598)	138.2%	32,556	32,556
Non-profit institutions	243,007	-	-	243,007	183,209	59,798	75.4%	284,634	283,681
Households	-	-	-	-	-	-	-	466	350
Payment for capital assets									
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	225	-	116	341	341	-	100.0%	238	216
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Total	1,143,393	-	5,155	1,148,548	1,141,349	7,199	99.4%	857,846	856,181

DETAIL PER PROGRAMME

FOR THE YEAR ENDED 31 MARCH 2010

Detail per subprogramme	2009/10							2008/09	
	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 Multilaterals and Africa									
Current payment	17,164	-	1,166	18,330	14,906	3,424	81.3%	18,610	17,895
Transfers and subsidies	39,630	-	-	39,630	39,630	-	100.0%	43,289	43,289
Payment for capital assets	60	-	5	65	65	-	100.0%	207	196
3.2 International Resources									
Current payment	20,904	-	(344)	20,560	12,151	8,409	59.1%	13,754	13,594
Transfers and subsidies	27,787	-	-	27,787	27,011	776	97.2%	23,636	23,602
Payment for capital assets	140	-	-	140	76	64	54.3%	173	164
3.3 Bilateral Cooperation									
Current payment	17,188	-	(333)	16,855	14,539	2,316	86.3%	21,990	21,601
Transfers and subsidies	9,000	-	-	9,000	9,000	-	100.0%	20,060	20,022
Payment for capital assets	90	-	6	96	96	-	100.0%	148	146
Total	131,963	-	500	132,463	117,474	14,989	88.7%	141,867	140,509

Economic classification	2009/10							2008/09	
	Adjusted appropriation R'000	Shifting of funds R'000	Virement R'000	Final appropriation R'000	Actual expenditure R'000	Variance R'000	Expenditure as % of final appropriation %	Final appropriation R'000	Actual expenditure R'000
Current payments									
Compensation of employees	31,028	-	(1,000)	30,028	27,914	2,114	93.0%	31,206	30,393
Goods and services	24,228	-	1,500	25,728	13,681	12,047	53.2%	23,148	22,697
Interest and rent on land	-	-	-	-	-	-	-	-	-
Financial transactions in assets and liabilities	-	-	-	-	-	-	-	-	-
Transfers and subsidies to:									
Provinces and municipalities	-	-	-	-	-	-	-	-	-
Departmental agencies and accounts	38,729	-	-	38,729	42,791	(4,062)	110.5%	44,302	44,264
Universities and universities of technology	2,980	-	-	2,980	3,805	(825)	127.7%	2,763	2,763
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	21,512	-	-	21,512	26,938	(5,426)	125.2%	34,344	34,344
Non-profit institutions	13,196	-	-	13,196	2,108	11,088	16.0%	5,547	5,542
Households	-	-	-	-	-	-	-	29	-
Payment for capital assets									
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	290	-	-	290	237	53	81.7%	528	506
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Total	131,963	-	500	132,463	117,474	14,989	88.7%	141,867	140,509

DETAIL PER PROGRAMME

FOR THE YEAR ENDED 31 MARCH 2010

Detail per subprogramme	2009/10							2008/09	
	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 Human Capital and Knowledge Systems									
Current payment	15,109	-	(138)	14,971	11,794	3,177	78.8%	12,199	11,781
Transfers and subsidies	1,107,280	-	-	1,107,280	1,107,245	35	100.0%	1,051,725	1,051,666
Payment for capital assets	-	-	97	97	97	-	100.0%	134	122
4.2 Indigenous Knowledge Systems									
Current payment	9,360	-	-	9,360	7,490	1,870	80.0%	7,947	7,312
Transfers and subsidies	15,938	-	-	15,938	15,929	9	99.9%	4,770	4,770
Payment for capital assets	100	-	6	106	106	-	100.0%	42	39
4.3 Emerging Research Areas and Infrastructure									
Current payment	8,408	-	-	8,408	6,404	2,004	76.2%	5,956	5,314
Transfers and subsidies	442,779	-	-	442,779	442,256	523	99.9%	374,106	373,950
Payment for capital assets	-	-	35	35	35	-	100.0%	63	55
Total	1,598,974	-	-	1,598,974	1,591,356	7,618	99.5%	1,456,942	1,455,009

Economic classification	2009/10							2008/09	
	Adjusted appropriation R'000	Shifting of funds R'000	Virement R'000	Final appropriation R'000	Actual expenditure R'000	Variance R'000	Expenditure as % of final appropriation %	Final appropriation R'000	Actual expenditure R'000
Current payments									
Compensation of employees	21,457	-	-	21,457	18,111	3,346	84.4%	18,302	16,963
Goods and services	11,420	-	(138)	11,282	7,577	3,705	67.2%	7,798	7,442
Interest and rent on land	-	-	-	-	-	-	-	-	-
Financial transactions in assets and liabilities	-	-	-	-	-	-	-	2	2
Transfers and subsidies to:									
Provinces and municipalities	-	-	-	-	-	-	-	-	-
Departmental agencies and accounts	1,181,089	-	-	1,181,089	1,239,527	(58,438)	104.9%	1,090,089	1,090,088
Universities and universities of technology	22,728	-	-	22,728	18,524	4,204	81.5%	5,762	5,762
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	302,400	-	-	302,400	260,020	42,380	86.0%	262,214	262,108
Non-profit institutions	59,780	-	-	59,780	47,109	12,671	78.8%	72,478	72,428
Households	-	-	-	-	250	(250)	-	58	-
Payment for capital assets									
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	100	-	138	238	238	-	100.0%	239	216
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Total	1,598,974	-	-	1,598,974	1,591,356	7,618	99.5%	1,456,942	1,455,009

DETAIL PER PROGRAMME

FOR THE YEAR ENDED 31 MARCH 2010

Detail per subprogramme	2009/10							2008/09	
	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	24,728	-	(668)	24,060	17,145	6,915	71.3%	17,383	15,948
Transfers and subsidies	890,464	-	(1,200)	889,264	881,936	7,328	99.2%	832,765	832,245
Payment for capital assets	200	-	(50)	150	129	21	86.0%	101	94
5.2 Science and Technology for Social Impact									
Current payment	9,365	-	(746)	8,619	7,439	1,180	86.3%	7,215	6,427
Transfers and subsidies	264,813	-	(7,000)	257,813	257,361	452	99.8%	246,166	241,146
Payment for capital assets	50	-	80	130	109	21	83.8%	24	21
5.3 Science and Technology Investment									
Current payment	10,174	-	(666)	9,508	8,286	1,222	87.1%	6,998	6,548
Transfers and subsidies	13,902	-	(1,500)	12,402	2,000	10,402	16.1%	17,000	17,000
Payment for capital assets	100	-	50	150	150	-	100.0%	154	146
Total	1,213,796	-	(11,700)	1,202,096	1,174,555	27,541	97.7%	1,127,806	1,119,575

Economic classification	2009/10							2008/09	
	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	29,526	-	(2,000)	27,526	21,687	5,839	78.8%	23,036	21,973
Goods and services	14,741	-	(80)	14,661	11,180	3,481	76.3%	8,560	6,950
Interest and rent on land	-	-	-	-	-	-	-	-	-
Financial transactions in assets and liabilities	-	-	-	-	3	(3)	-	-	-
Transfers and subsidies to:									
Provinces and municipalities	-	-	-	-	-	-	-	-	-
Departmental agencies and accounts	312,733	-	(9,700)	303,033	289,550	13,483	95.6%	278,739	273,662
Universities and universities of technology	6,765	-	-	6,765	8,130	(1,365)	120.2%	6,730	6,730
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	806,494	-	-	806,494	792,954	13,540	98.3%	746,091	746,091
Non-profit institutions	43,187	-	-	43,187	50,663	(7,476)	117.3%	64,371	63,908
Households	-	-	-	-	-	-	-	-	-
Payment for capital assets									
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	350	-	80	430	388	42	90.2%	279	261
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Total	1,213,796	-	(11,700)	1,202,096	1,174,555	27,541	97.7%	1,127,806	1,119,575

NOTES TO THE APPROPRIATION STATEMENT

FOR THE YEAR ENDED 31 MARCH 2010

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

Detail of these transactions can be viewed in the note Transfers and subsidies, disclosure notes and Annexure 1 (C, D, E, G, H and K) 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 1 (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 the note to 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
Administration				
Compensation of employees	95,810	82,638	13,172	14%
Good and Services	76,346	68,945	7,401	10%

The underspending in Programme 1: Administration is due to unforeseen staff turnover, the resultant administrative costs and the delay in the roll-out of the Alfresco document management system.

International Cooperation and Resources				
Compensation of employees	30,028	27,914	2,114	7%
Good and Services	25,728	13,681	12,047	47%

The underspending in Programme 3: International Cooperation and Resources is attributed to staff turnover and the delay in finalising the project to establish the Regional Initiative for Capacity Development's secretariat function.

Socio-Economic Partnerships				
Compensation of employees	27,526	21,687	5,839	21%
Good and Services	14,661	11,180	3,481	24%

The underspending in Programme 5: Socio-Economic Partnerships is mainly attributed to staff turnover, the resultant administrative costs and the delay in project implementation.

4.2 Per Economic classification	Final appropriation	Actual expenditure	Variance	Variance as a % of final appropriation
	R'000	R'000	R'000	R'000
Current payments:				
Compensation of employees	195,160	167,487	27,673	14%
Goods and services	145,458	116,754	28,704	20%
Interest and rent on land	-	-	-	-
Financial transaction in assets and liabilities	-	80	(80)	0%
Unauthorised expenditure approved	-	-	-	-
Transfers and subsidies:				
Departmental agencies and accounts	2,228,099	2,310,883	(82,784)	103%
Universities and universities of technology	119,875	113,447	6,428	5%
Public corporations and private enterprises	1,205,231	1,183,335	21,896	2%
Non-profit institutions	360,115	283,507	76,608	21%
Households	-	702	(702)	0%
Payments for capital assets:				
Machinery and equipment	7,757	7,662	(95)	1%

STATEMENT OF FINANCIAL PERFORMANCE

FOR THE YEAR ENDED 31 MARCH 2010

PERFORMANCE	Note	2009/10 R'000	2008/09 R'000
REVENUE			
Annual appropriation	1	4,261,695	3,721,715
Departmental revenue	2	1,585	333
Aid assistance	3	56,837	25,298
TOTAL REVENUE		4,320,117	3,747,346
EXPENDITURE			
Current expenditure			
Compensation of employees	4	167,487	144,869
Goods and services	5	116,754	115,321
Financial transactions in assets and liabilities	6	80	75
Aid assistance	3	2,597	48
Total current expenditure		286,918	260,313
Transfers and subsidies			
Transfers and subsidies	7	3,891,874	3,439,880
Aid assistance	3	48,736	18,077
Expenditure for capital assets			
Tangible capital assets	8	7,855	3,323
Total expenditure for capital assets		7,855	3,323
TOTAL EXPENDITURE		4,235,383	3,721,593
SURPLUS FOR THE YEAR		84,734	25,753
Reconciliation of Net Surplus for the year			
Voted funds		77,838	18,247
Departmental revenue	13	1,585	333
Aid assistance	3	5,311	7,173
SURPLUS FOR THE YEAR		84,734	25,753

STATEMENT OF FINANCIAL POSITION

FOR THE YEAR ENDED 31 MARCH 2010

ANNUAL REPORT 2009/10

POSITION	Note	2009/10	2009/08
		R'000	R'000
ASSETS			
Current assets		83,303	25,554
Cash and cash equivalents	9	82,655	24,168
Prepayments and advances	10	121	367
Receivables	11	527	1,019
TOTAL ASSETS		83,303	25,554
LIABILITIES			
Current liabilities		83,239	25,461
Voted funds to be surrendered to the Revenue Fund	12	77,838	18,247
Departmental revenue to be surrendered to the Revenue Fund	13	82	4
Payables	14	8	37
Aid assistance repayable	3	5,311	7,173
TOTAL LIABILITIES		83,239	25,461
NET ASSETS		64	93

	Note	2009/10	2008/09
		R'000	R'000
Represented by:			
Recoverable revenue		64	93
TOTAL		64	93

STATEMENT OF CHANGES IN NET ASSETS

FOR THE YEAR ENDED 31 MARCH 2010

NET ASSETS	Note	2009/10	2008/09
		R'000	R'000
Recoverable revenue			
Opening balance		93	65
Transfers:		(29)	28
Debts revised		4	-
Debts recovered (included in departmental receipts)		(34)	(22)
Debts raised		1	50
Closing balance		64	93
TOTAL		64	93

CASH FLOW STATEMENT

FOR THE YEAR ENDED 31 MARCH 2010

ANNUAL REPORT 2009/10

CASH FLOW	Note	2009/10	2008/09
		R'000	R'000
CASH FLOWS FROM OPERATING ACTIVITIES			
Receipts		4,320,117	3,747,346
Annual appropriated funds received	1.1	4,261,695	3,721,715
Departmental revenue received	2	1,585	333
Aid assistance received	3	56,837	25,298
Net decrease in working capital		709	(464)
Surrendered to Revenue Fund	17	(19,754)	(17,300)
Surrendered to RDP Fund/Donor		(7,173)	-
Current payments		(286,918)	(260,313)
Transfers and subsidies paid		(3,940,610)	(3,457,957)
Net cash flow available from operating activities	15	66,371	11,312
CASH FLOWS FROM INVESTING ACTIVITIES			
Payments for capital assets	8	(7,855)	(3,323)
Net cash flows from investing activities		(7,855)	(3,323)
CASH FLOWS FROM FINANCING ACTIVITIES			
Increase/(decrease) in net assets		(29)	28
Net cash flows from financing activities		(29)	28
Net increase in cash and cash equivalents		58,487	8,017
Cash and cash equivalents at the beginning of the period		24,168	16,151
Cash and cash equivalents at end of period	16	82,655	24,168

ACCOUNTING POLICIES

FOR THE YEAR ENDED 31 MARCH 2010

The 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, 1999, and the Treasury Regulations issued in terms of the Act and the Division of Revenue Act, 2006.

I. PRESENTATION OF THE FINANCIAL STATEMENTS

I.1 Basis of preparation

The 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.

I.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 Department.

I.3 Rounding

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

I.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.

I.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 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. 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 recognised in the Statement of Financial Performance when received and is subsequently paid into the National/Provincial Revenue Fund, unless otherwise stated.

Any amount owing to the National Revenue Fund at the end of the financial year is recognised as payable in the Statement of Financial Position.

No accrual is made for receivables from the last receipt date to the end of the reporting period. These amounts are, however, disclosed in the disclosure note to the annual financial statements.

2.2.1 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.

2.2.2 Interest, dividends and rent on land

Interest, dividends and rent on land is recognised in the Statement of Financial Performance when the cash is received.

2.2.3 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.

2.2.4 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 are 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.

ACCOUNTING POLICIES

FOR THE YEAR ENDED 31 MARCH 2010

2.3 Direct Exchequer receipts / payments

All direct exchequer receipts are recognised in the Statement of Financial Performance when cash is received and subsequently paid into the National Revenue Fund, unless otherwise stated.

2.4 Aid assistance

Aid assistance is recognised as revenue when received.

All in-kind aid assistance is disclosed at fair value on the date of receipt in the annexures to the Annual Financial Statements.

The cash payments made during the year relating to aid assistance projects are recognised as expenditure in the Statement of Financial Performance when final authorisation for payments is effected on the system (by no later than 31 March of each year).

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 aid assistance and any unutilised amounts are recognised as payables in the Statement of Financial Position.

3. EXPENDITURE

3.1 Compensation of employees

3.1.1 Short-term employee benefits

The costs of short-term employee benefits are expensed in the Statement of Financial Performance when financial authorisation for payment is effected on the system (by no later than 31 March of each year).

Short-term employee benefits that give rise to a present legal or constructive obligation are disclosed in the disclosure notes to the Financial Statements. These amounts are not recognised in the Statement of Financial Performance or Position.

Employee costs are capitalised to the cost of a capital project when an employee spends more than 50% of his/her time in the project.

3.1.2 Post-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 (i.e. social contributions) to the fund are expensed when the final authorisation for 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 Revenue Fund and not in the Financial Statements of the employer department.

Social contribution (such as medical benefits) made by the Department for certain of its employees are classified as transfers to households in the Statement of Financial Performance.

3.1.3 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 final authorisation for payment is effected on the system (by no later than 31 March of each year).

3.1.4 Other long-term employee benefits

Other long-term employee benefits (such as capped leave) are recognised as an expense in the Statement of Financial Performance as a transfer (to households) when the final authorisation for payment is effected on the system (by no later than 31 March of each year).

Long-term employee benefits that give rise to a present legal or constructive obligation are disclosed in the disclosure notes to the Financial Statements. These amounts are not recognised in the Statement of Financial Performance or Position.

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

The expense is classified as capital if the goods and services were used for a capital project or when an asset of R5 000 or more is purchased. All other expenditures are classified as current.

3.3 Interest and rent on land

Interest and rental payments are recognised as an expense in the Statement of Financial Performance when the final authorisation for payment is effected on the system (by no later than 31 March of each year). This item excludes rental for use of building or other fixed structures.

3.4 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.

ACCOUNTING POLICIES

FOR THE YEAR ENDED 31 MARCH 2010

3.5 Transfers and subsidies

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

3.6 Unauthorised expenditure

When confirmed, unauthorised expenditure is recognised as an asset in the Statement of Financial Position until such time as the expenditure is either approved by relevant authority, recovered from the responsible person or written off as irrecoverable in the Statement of Financial Performance.

Unauthorised expenditure approved with funding is derecognised from the Statement of Financial Position when the unauthorised expenditure is approved and the related funds are received.

Where the amount is approved without funding, it is recognised as expenditure in the Statement of Financial Performance on the date of approval.

3.7 Fruitless and wasteful expenditure

Fruitless and wasteful expenditure is recognised as expenditure in the Statement of Financial Performance according to the nature of the payment and not as separate line item on the face of the statement. If the expenditure is recoverable it is treated as an asset until recovered from the responsible person or written off as irrecoverable in the Statement of Financial Performance.

3.8 Irregular expenditure

Irregular expenditure is recognised as expenditure in the Statement of Financial Performance. If the expenditure is not condoned by the relevant authority it is treated as an asset until it is recovered or written off as irrecoverable.

4. ASSETS

4.1 Cash and cash equivalents

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

Bank overdrafts are shown separately on the face of the Statement of Financial Position.

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 Other financial assets

Other financial assets are carried in the Statement of Financial Position at cost.

4.3 Prepayments and advances

Amounts prepaid or advanced are recognised in the Statement of Financial Position when the payments are made and where goods and services have not been received by the year end.

Pre-payments and advances outstanding at the end of the year are carried in the Statement of Financial Position at cost.

4.4 Receivables

Receivables included in the Statement of Financial Position arise from cash payments made that are recoverable from another party or from the sale of goods/rendering of services.

Receivables outstanding at year-end are carried in the Statement of Financial Position at cost. Amounts that are potentially irrecoverable are included in the disclosure notes.

4.5 Investments

Capitalised investments are shown at cost in the Statement of Financial Position.

Investments are tested for an impairment loss whenever events or changes in circumstances indicate that the investment may be impaired. Any impairment of loss is included in the disclosure notes.

4.6 Loans

Loans are recognised in the Statement of Financial Position when the cash is paid to the beneficiary. Loans that are outstanding at year-end are carried in the Statement of Financial Position at cost plus accrued interest.

4.7 Inventory

Inventories that qualify for recognition must be initially reflected at cost. When inventories are acquired at no cost, or no nominal consideration, their cost shall be their fair value at the date of acquisition.

All inventory items at year-end are reflected using the weighted average cost formula.

4.8 Capital assets

4.8.1 Movable assets

Initial recognition

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 movable capital asset is stated at fair value. Where fair value cannot be determined, the capital asset is included in the asset register at R1.

ACCOUNTING POLICIES

FOR THE YEAR ENDED 31 MARCH 2010

All assets acquired prior to 1 April 2002 are included in the asset register at RI.

Subsequent recognition

Subsequent expenditure of a capital nature is recorded in the Statement of Financial Performance as "expenditure for capital asset" and is capitalised in the asset register of the Department on completion of the project.

Repairs and maintenance is expensed as current "goods and services" in the Statement of Financial Performance.

4.8.2 Immovable assets

Initial recognition

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 immovable capital asset is stated at RI unless the fair value for the asset has been reliably estimated.

Subsequent recognition

Work-in-progress of a capital nature is recorded in the Statement of Financial Performance as "expenditure for capital asset". On completion, the total cost of the project is included in the asset register of the Department that legally owns the asset or the national Department of Public Works.

Repairs and maintenance is expensed as current "goods and services" in the Statement of Financial Performance.

5. LIABILITIES

5.1 Payables

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

5.2 Contingent liabilities

Contingent liabilities are included in the disclosure notes to the Financial Statements when it is possible that economic benefits will flow from the Department, or when an outflow of economic benefits or service potential is probable but cannot be measured reliably.

5.3 Commitments

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.

5.4 Accruals

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.

5.5 Employee benefits

Short-term employee benefits that give rise to a present legal or constructive obligation are disclosed in the disclosure notes to the financial statements. These amounts are not recognised in the Statement of Financial Performance or the Statement of Financial Position.

5.6 Lease commitments

Finance leases

Finance leases are not recognised as assets and liabilities in the Statement of Financial Position. Finance lease payments are recognised as an expense in the Statement of Financial Performance and are apportioned between the capital and interest portions. The finance lease liability is disclosed in the disclosure notes to the Financial Statements.

Operating leases

Operating lease payments are recognised as an expense in the Statement of Financial Performance. The operating lease commitments are disclosed in the disclosure notes to the Financial Statements.

5.7 Provisions

Provisions are disclosed when there is a present legal obligation or constructive obligation to forfeit economic benefits as a result of events in the past, and it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate of the obligation can be made.

6. RECEIVABLES FOR DEPARTMENTAL REVENUE

Receivables for departmental revenue are disclosed in the disclosure notes to the Financial Statements.

7. NET ASSETS

7.1 Capitalisation reserve

The capitalisation reserve comprises of financial assets and/or liabilities originating in a prior reporting period but which are recognised in the Statement of Financial Position for the first time in the current reporting period. Amounts are recognised in the capitalisation reserve when identified in the current period and are transferred to the National Revenue Fund when the underlining asset is disposed and the related funds are received.

The Department did not have a capitalised reserve in the current reporting period.

ACCOUNTING POLICIES

FOR THE YEAR ENDED 31 MARCH 2010

7.2 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. Amounts are either transferred to the National Revenue Fund when recovered or transferred to the Statement of Financial Performance when written off.

8. RELATED PARTY TRANSACTIONS

Specific information with regards to related party transactions is included in the disclosure notes.

9. KEY MANAGEMENT PERSONNEL

Compensation paid to key management personnel, including their family members where relevant, is included in the disclosure notes.

10. PUBLIC PRIVATE PARTNERSHIPS

The Department did not have any public-private partnerships in the current reporting period.

NOTES TO THE ANNUAL FINANCIAL STATEMENT

FOR THE YEAR ENDED 31 MARCH 2010

ANNUAL REPORT 2009/10

I. ANNUAL APPROPRIATION

I.1 Annual Appropriation

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

	Final Appropriation	Actual Funds Received	Funds not requested/ not received	Appropriation received 2008/09
	R'000	R'000	R'000	R'000
Administration	179,614	179,614	-	127,893
Research, Development and Innovation	1,148,548	1,148,548	-	867,207
International Cooperation and Resources	132,463	132,463	-	141,867
Human Capital and Knowledge Systems	1,598,974	1,598,974	-	1,456,942
Socio-Economic Partnerships	1,202,096	1,202,096	-	1,127,806
Total	4,261,695	4,261,695	-	3,721,715

2. DEPARTMENTAL REVENUE

	Note	2009/10	2008/09
		R'000	R'000
Sales of goods and services other than capital assets	2.1	30	26
Interest, dividends and rent on land	2.2	3	9
Financial transactions in assets and liabilities	2.3	1,552	298
Departmental revenue collected		1,585	333

2.1 Sales of goods and services other than capital assets

	Note	2009/10	2008/09
	2	R'000	R'000
Other sales		30	26
Total		30	26

NOTES TO THE ANNUAL FINANCIAL STATEMENT

FOR THE YEAR ENDED 31 MARCH 2010

2.2 Interest, dividends and rent on land

	Note	2009/10	2008/09
	2	R'000	R'000
Interest		3	9
Total		3	9

2.3 Financial transactions in assets and liabilities

	Note	2009/10	2008/09
	2	R'000	R'000
Receivables		35	22
Other receipts including recoverable revenue		1,517	276
Total		1,552	298

3. AID ASSISTANCE

3.1 Aid assistance received in cash from RDP

	Note	2009/10	2008/09
		R'000	R'000
Foreign			
Opening balance		7,173	-
Revenue	Annex 1j	56,837	25,298
Expenditure	Annex 1j	(51,526)	(18,125)
Current		(2,597)	(48)
Capital	8.1	(193)	
Transfers		(48,736)	(18,077)
Surrender to RDP		(7,173)	-
Closing Balance		5,311	7,173
Analysis of balance			
	Note		
Aid assistance repayable		5,311	7,173
RDP		5,311	7,173
Closing balance		5,311	7,173

4. COMPENSATION OF EMPLOYEES

4.1 Salaries and wages

	Note	2009/10	2008/09
		R'000	R'000
Basic salary		101,054	87,054
Performance award		10,265	7,122
Service-based		574	707
Compensative/circumstantial		2,213	2,061
Periodic payments		14	149
Other non-pensionable allowances		36,991	33,689
Total		151,111	130,782

4.2 Social contributions

	Note	2009/10	2008/09
		R'000	R'000
Employer contributions			
Pension		12,964	10,987
Medical		3,401	3,090
Bargaining council		11	10
Total		16,376	14,087
Total compensation of employees		167,487	144,869
Average number of employees		357	342

5. GOODS AND SERVICES

	Note	2009/10	2008/09
		R'000	R'000
Administrative fees		903	619
Advertising		4,995	10,680
Assets less than R5,000	5.1	523	580
Bursaries (employees)		967	1,172
Catering		1,678	2,111
Communication		8,385	6,813
Computer services	5.2	9,306	3,227

NOTES TO THE ANNUAL FINANCIAL STATEMENT

FOR THE YEAR ENDED 31 MARCH 2010

	Note	2009/10	2008/09
		R'000	R'000
Consultants, contractors and agency/outsourced services	5.3	33,040	28,573
Entertainment		638	1,216
Audit cost – external	5.4	2,414	1,613
Inventory	5.5	4,742	4,115
Operating leases		3,112	957
Owned and leasehold property expenditure	5.6	3,263	6,293
Travel and subsistence	5.7	27,864	38,207
Venues and facilities		5,131	2,209
Training and staff development		5,712	2,022
Other operating expenditure	5.8	4,081	4,914
Total		116,754	115,321

5.1 Assets less than R5,000

	Note	2009/10	2008/09
	5	R'000	R'000
Tangible assets		523	580
Machinery and equipment		523	580
Total		523	580

5.2 Computer services

	Note	2009/10	2008/09
	5	R'000	R'000
SITA computer services		3,975	1,801
External computer service providers		5,331	1,426
Total		9,306	3,227

5.3 Consultants, contractors and agency/outsourced services

	Note	2009/10	2008/09
	5	R'000	R'000
Business and advisory services		7,260	4,873
Legal costs		188	268
Contractors		6,248	2,293
Agency and support/outsourced services		19,344	21,139
Total		33,040	28,573

5.4 Audit cost – External

	Note	2009/10	2008/09
	5	R'000	R'000
Regularity audits		2,414	1,613
Total		2,414	1,613

5.5 Inventory

	Note	2009/10	2008/09
	5	R'000	R'000
Fuel, oil and gas		-	36
Other consumable materials		225	502
Stationery and printing		4,517	3,577
Total		4,742	4,115

5.6 Owned and leasehold property expenditure

	Note	2009/10	2008/09
	5	R'000	R'000
Municipal services		1,666	1,526
Property maintenance and repairs		506	-
Other		1,091	4,767
Total		3,263	6,293

5.7 Travel and subsistence

	Note	2009/10	2008/09
	5	R'000	R'000
Local		15,579	19,426
Foreign		12,285	18,781
Total		27,864	38,207

NOTES TO THE ANNUAL FINANCIAL STATEMENT

FOR THE YEAR ENDED 31 MARCH 2010

5.8 Other operating expenditure

	Note	2009/10	2008/09
	5	R'000	R'000
Professional bodies, membership and subscription fees		1,072	2,532
Resettlement costs		1,535	1,711
Other		1,474	671
Total		4,081	4,914

6. FINANCIAL TRANSACTIONS IN ASSETS AND LIABILITIES

	Note	2009/10	2008/09
		R'000	R'000
Other material losses written off	6.1	80	75
Total		80	75

6.1 Other material losses written off

	Note	2009/10	2008/09
	6	R'000	R'000
Nature of losses			
Damages to hired vehicles		50	74
Damages to private vehicles		17	-
Petty cash		4	1
Damage to Deputy Minister's vehicle		1	-
Other losses		8	-
Total		80	75

7. TRANSFERS AND SUBSIDIES

	Note	2009/10	2008/09
		R'000	R'000
Departmental agencies and accounts	Annex IC	2,310,883	1,866,540
Universities and technikons	Annex ID	113,447	69,452
Public corporations and private enterprises	Annex IE	1,183,335	1,075,099
Non-profit institutions	Annex IG	283,507	428,439
Households	Annex IH	452	-
Gifts, donations and sponsorships made	Annex IK	250	350
Total		3,891,874	3,439,880

8. EXPENDITURE FOR CAPITAL ASSETS

	Note	2009/10	2008/09
		R'000	R'000
Tangible assets			
Machinery and equipment	24	7,855	3,323
Total		7,855	3,323

8.1 Analysis of funds utilised to acquire capital assets – 2009/10

	Voted funds	Aid assistance	Total
	R'000	R'000	R'000
Tangible assets			
Machinery and equipment	7,662	193	7,855
Total	7,662	193	7,855

The amount of R193 000 is in respect of the Donor Fund Project – “Innovation for Poverty Alleviation Programme” [Note 3.1 and Annexure 1J] funded by the European Union and is accounted for under a different fund of the Department. This amount is, however, not included in the Departmental Asset Register and the additions in Disclosure Note 25.1 “Additions to Movable Tangible Capital Assets per Asset Register for the year ended 31 March 2010”.

8.2 Analysis of funds utilised to acquire capital assets – 2008/09

	Voted funds	Aid assistance	Total
	R'000	R'000	R'000
Machinery and equipment	3,323	-	3,323
Total assets acquired	3,323	-	3,323

NOTES TO THE ANNUAL FINANCIAL STATEMENT

FOR THE YEAR ENDED 31 MARCH 2010

9. CASH AND CASH EQUIVALENTS

	Note	2009/10	2008/09
		R'000	R'000
Consolidated Paymaster General Account		82,622	24,135
Cash on hand		33	33
Total		82,655	24,168

10. PREPAYMENTS AND ADVANCES

	Note	2009/10	2008/09
		R'000	R'000
Travel and subsistence		51	136
Advances paid to other entities		70	231
Total		121	367

11. RECEIVABLES

	Note	2009/10			2008/09	
		R'000	R'000	R'000	R'000	R'000
		Less than one year	One to three years	Older than three years	Total	Total
Claims recoverable	11.1 Annex 4	92	13	-	105	131
Trade receivables	11.2	-	-	-	-	561
Recoverable expenditure	11.3	96	4	207	307	159
Staff debt	11.4	16	99	-	115	168
Total		204	116	207	527	1,019

11.1 Claims recoverable

	Note	2009/10	2008/09
		R'000	R'000
National departments	Annex 4	79	122
Households and non-profit institutions		26	9
Total		105	131

11.2 Trade receivables

	Note	2009/10	2008/09
	11	R'000	R'000
MTN M-TEL		-	561
Total		-	561

11.3 Recoverable expenditure (disallowance accounts)

	Note	2009/10	2008/09
	11	R'000	R'000
Income tax debt		6	13
Persal salaries and stoppages		1	-
Damages to vehicles		200	139
Value Added Taxation (VAT) in respect of the Donor Fund Project - Innovation for Poverty Alleviation		100	7
Total		307	159

11.4 Staff debt

	Note	2009/10	2008/09
	11	R'000	R'000
Bursary debt		22	61
Salary overpayment		38	59
Telephone debt		10	16
Performance Bonus - Overpayment		9	-
Previous employees - Resettlement debt		36	32
Total		115	168

12. VOTED FUNDS TO BE SURRENDERED TO THE REVENUE FUND

	Note	2009/10	2008/09
		R'000	R'000
Opening balance		18,247	16,948
Transfer from statement of financial performance		77,838	18,247
Paid during the year		(18,247)	(16,948)
Closing balance		77,838	18,247

NOTES TO THE ANNUAL FINANCIAL STATEMENT

FOR THE YEAR ENDED 31 MARCH 2010

13. DEPARTMENTAL REVENUE TO BE SURRENDERED TO THE REVENUE FUND

	Note	2009/10	2008/09
		R'000	R'000
Opening balance		4	23
Transfer from Statement of Financial Performance		1,585	333
Paid during the year		(1,507)	(352)
Closing balance		82	4

14. PAYABLES – CURRENT

Description	Note	2009/10	2008/09
		Total	Total
Clearing accounts	14.1	8	37
Total		8	37

14.1 Clearing accounts

	Note	2009/10	2008/09
		R'000	R'000
Persal salaries and stoppages		1	37
Income tax		7	-
Total		8	37

15. NET CASH FLOW AVAILABLE FROM OPERATING ACTIVITIES

	Note	2009/10	2008/09
		R'000	R'000
Net surplus as per Statement of Financial Performance		84,734	25,753
Add back non-cash/cash movements not deemed operating activities		(18,363)	(14,441)
(Increase)/Decrease in receivables – current		492	(200)
(Increase)/Decrease in prepayments and advances		246	(299)
Increase/(Decrease) in payables – current		(29)	35
Expenditure on capital assets		7,855	3,323
Surrenders to Revenue Fund	17	(19,754)	(17,300)
Surrenders to Donor Fund		(7,173)	-
Net cash flow generated by operating activities		66,371	11,312

16. RECONCILIATION OF CASH AND CASH EQUIVALENTS FOR CASH FLOW PURPOSES

	Note	2009/10	2008/09
		R'000	R'000
Consolidated Paymaster General Account		82,622	24,135
Cash on hand		33	33
Total		82,655	24,168

17. SURRENDERED TO THE REVENUE FUND

	Note	2009/10	2008/09
		R'000	R'000
Funds to be surrendered to the Revenue Fund:			
Paid during the year *	12	(18,247)	(16,948)
Departmental revenue to be surrendered to the Revenue Fund			
Paid during the year **	13	(1,507)	(352)
Total		(19,754)	(17,300)

* The amount reflects the surplus for the year as reflected in the Statement of Performance in respect of the previous financial year.

** The amount reflects the revenue that has been collected during the 2009/10 financial year and paid over to the National Revenue Fund (including the R4 000 not surrendered during the 2008/09 financial year).

DISCLOSURE NOTES TO THE ANNUAL FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 MARCH 2010

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

18. CONTINGENT LIABILITIES

		Note	2009/10	2008/09
			R'000	R'000
Liable to	Nature			
Housing loan guarantees	Employees	Annex 3A	192	204
Total			192	204

19. COMMITMENTS

		Note	2009/10	2008/09
			R'000	R'000
Current expenditure				
Approved and contracted			7,618	1,017
			7,618	1,017
Capital expenditure				
Approved and contracted			133	37
			133	37
Total commitments			7,751	1,054

20. ACCRUALS

		2009/10		2008/09
		R'000		R'000
Listed by economic classification				
	30 Days	30+ Days	Total	Total
Goods and services	44	-	44	325
Machinery and equipment	333	-	333	-
Total	377	-	377	325

	Note	2009/10	2008/09
		R'000	R'000
Listed by Programme level			
Programme 1: Administration		253	7
Programme 2: Research, Development and Innovation		-	218
Programme 3: International Cooperation and Resources		83	100
Programme 4: Human Capital and Knowledge Systems		41	-
Total		377	325

	Note	2009/10	2008/09
		R'000	R'000
Confirmed balances with other departments	Annex 5	73	-
Confirmed balances with other government entities	Annex 5	-	290
Total		73	290

21. EMPLOYEE BENEFITS

	Note	2009/10	2008/09
		R'000	R'000
Leave entitlement*		5,479	5,347
Thirteenth cheque		3,664	3,080
Performance awards		-	-
Capped leave commitments		3,108	2,838
Total		12,251	11,265

*A negative amount of R181,658.22 was offset against leave entitlement. The amount was as a result of pro-rata calculation of leave taken by employees as at the 31 of March 2010. In terms of the pro-rata calculation employees are entitled to 5.49 days leave from 1 January to 31 March. If an employee takes more leave this results in a negative leave taken for the three-month period. The situation will be automatically rectified during the leave period.

DISCLOSURE NOTES TO THE ANNUAL FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 MARCH 2010

22. LEASE COMMITMENTS

22.1 Operating leases expenditure

2009/10	Land	Buildings and other fixed structures	Machinery and equipment	Total
	R'000	R'000	R'000	R'000
Not later than 1 year	-	-	1,460	1,460
Later than 1 year and not later than 5 years	-	-	733	733
Total lease commitments	-	-	2,193	2,193

2008/09	Land	Buildings and other fixed structures	Machinery and equipment	Total
	R'000	R'000	R'000	R'000
Not later than 1 year	-	-	3,767	3,767
Later than 1 year and not later than 5 years	-	-	1,402	1,402
Total lease commitments	-	-	5,169	5,169

23. RELATED PARTY TRANSACTIONS

The following entities are under the Ownership Control of the Department in terms of Chapter 1 of the Public Finance Management Act, 1999, and report to the Minister of Science and Technology and as such are related parties to the Department:

Schedule 3A – National Public Entities

- Africa Institute of South Africa
- Human Sciences Research Council
- National Research Foundation
- South African National Space Agency, which is envisaged to be operational in 2011/12 financial year
- Technology Innovation Agency, which became operational on 1 April 2010

Schedule 3B – National Government Business Enterprises

- Council for Scientific and Industrial Research

The Department transactions with these entities are limited to transfer and subsidy payments. Annexures IC and IE to the Annual Financial Statement reflect payments to these public entities. Where transactions other than these occur; they occur within a normal supplier/client relationship in terms of the Procurement procedures of the Department in terms of the Public Finance Management Act.

24. KEY MANAGEMENT PERSONNEL

	No. of Individuals	2009/10 R'000	2008/09 R'000
Political office bearers (provide detail below)	3	3,650	2,891
Officials:			
Levels 15 to 16	9	6,080	5,807
Level 14 (incl. CFO if at a lower level)	1	915	866
Total		10,645	9,564

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. MOVABLE TANGIBLE CAPITAL ASSETS

MOVEMENT IN MOVABLE TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2010					
	Opening balance	Current year adjustments to prior year balances	Additions	Disposals	Closing balance
	R'000	R'000	R'000	R'000	R'000
MACHINERY AND EQUIPMENT	32,794	-	7,662	(1,918)	38,538
Transport assets	3,051	-	2,105	(1,173)	3,983
Computer equipment	12,664	-	4,006	(612)	16,058
Furniture and office equipment	9,661	-	1,197	(130)	10,728
Other machinery and equipment	7,418	-	354	(3)	7,769
TOTAL MOVABLE TANGIBLE CAPITAL ASSETS	32,794	-	7,662	(1,918)	38,538

DISCLOSURE NOTES TO THE ANNUAL FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 MARCH 2010

25.1 Additions

ADDITIONS TO MOVABLE TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2010					
	Cash	Non-cash	(Capital work in progress current costs and finance lease payments)	Received current, not paid (Paid current year, received prior year)	Total
	R'000	R'000	R'000	R'000	R'000
MACHINERY AND EQUIPMENT	7,662	-	-	-	7,662
Transport assets	2,105	-	-	-	2,105
Computer equipment	4,006	-	-	-	4,006
Furniture and office equipment	1,197	-	-	-	1,197
Other machinery and equipment	354	-	-	-	354
TOTAL ADDITIONS TO MOVABLE TANGIBLE CAPITAL ASSETS	7,662	-	-	-	7,662

25.2 Disposals

DISPOSAL OF MOVABLE TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2010				
	Sold for cash	Transfer out or destroyed or scrapped	Total disposals	Cash received actual
	R'000	R'000	R'000	R'000
MACHINERY AND EQUIPMENT	-	1,918	1,918	-
Transport assets	-	1,173	1,173	-
Computer equipment	-	612	612	-
Furniture and office equipment	-	130	130	-
Other machinery and equipment	-	3	3	-
TOTAL DISPOSAL OF MOVABLE TANGIBLE CAPITAL ASSETS	-	1,918	1,918	-

25.3 Movement for 2008/09

MOVEMENT IN MOVABLE TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2009				
	Opening balance	Additions	Disposals	Closing balance
	R'000	R'000	R'000	R'000
MACHINERY AND EQUIPMENT	30,157	3,323	(686)	32,794
Transport assets	3,051	-	-	3,051
Computer equipment	11,022	2,316	(674)	12,664
Furniture and office equipment	9,007	666	(12)	9,661
Other machinery and equipment	7,077	341	-	7,418
TOTAL MOVABLE TANGIBLE ASSETS	30,157	3,323	(686)	32,794

25.4 Minor assets

MINOR ASSETS OF THE DEPARTMENT FOR THE YEAR ENDED 31 MARCH 2010					
	Intangible assets	Heritage assets	Machinery and equipment	Biological assets	Total
	R'000	R'000	R'000	R'000	R'000
Minor assets	-	-	523	-	523
Total	-	-	523	-	523

	Intangible assets	Heritage assets	Machinery and equipment	Biological assets	Total
Number of RI minor assets	-	-	176	-	176
Number of minor assets at cost	-	-	255	-	255
Total	-	-	431	-	431

DISCLOSURE NOTES TO THE ANNUAL FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 MARCH 2010

25.5 Minor assets

MINOR ASSETS OF THE DEPARTMENT FOR THE YEAR ENDED 31 MARCH 2009					
	Intangible assets	Heritage assets	Machinery and equipment	Biological assets	Total
	R'000	R'000	R'000	R'000	R'000
Minor assets	-	-	299	-	299
Total	-	-	299	-	299

	Intangible assets	Heritage assets	Machinery and equipment	Biological assets	Total
Number of minor assets	-	-	110	-	110
Total	-	-	110	-	110

26. IMMOVABLE TANGIBLE CAPITAL ASSETS

MOVEMENT IN IMMOVABLE TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2010					
	Opening balance	Current year adjustments to prior year balances	Additions	Disposals	Closing balance
	R'000	R'000	R'000	R'000	R'000
BUILDINGS AND OTHER FIXED STRUCTURES	133,174	(133,174)	-	-	-
Non-residential buildings	133,174	(133,174)	-	-	-
TOTAL IMMOVABLE TANGIBLE CAPITAL ASSETS	133,174	(133,174)	-	-	-

An amount of R133, 174 for the building is being removed from the disclosure note as the building is in the books of the Council for Scientific and Industrial Research (CSIR) and will be transferred by CSIR to the Department of Public Works.

26.1 Additions

ADDITIONS TO IMMOVABLE TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2010					
	Cash	Non-cash	(Capital Work in Progress current costs and finance lease payments)	Received current, not paid (Paid current year, received prior year)	Total
	R'000	R'000	R'000	R'000	R'000
BUILDING AND OTHER FIXED STRUCTURES	-	-	-	-	-
Non-residential buildings	-	-	-	-	-
TOTAL ADDITIONS TO IMMOVABLE TANGIBLE CAPITAL ASSETS	-	-	-	-	-

26.2 Disposals

DISPOSALS OF IMMOVABLE TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2010				
	Sold for cash	Transfer out or destroyed or scrapped	Total disposals	Cash received actual
	R'000	R'000	R'000	R'000
BUILDINGS AND OTHER FIXED STRUCTURES				
Dwellings	-	-	-	-
TOTAL DISPOSALS OF IMMOVABLE TANGIBLE CAPITAL ASSETS	-	-	-	-

DISCLOSURE NOTES TO THE ANNUAL FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 MARCH 2010

26.3 Movement for 2008/09

MOVEMENT IN IMMOVABLE TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2009				
	Opening balance	Additions	Disposals	Closing balance
	R'000	R'000	R'000	R'000
BUILDINGS AND OTHER FIXED STRUCTURES	133,174	-	-	133,174
Non-residential buildings	133,174	-	-	133,174
TOTAL IMMOVABLE TANGIBLE ASSETS	133,174	-	-	133,174

26.4 Immovable assets valued at R1

IMMOVABLE ASSETS VALUED AT R1 IN THE ASSET REGISTER FOR 31 MARCH 2010					
	Buildings and other fixed structures	Heritage assets	Land and subsoil assets	Investment property	Total
	R'000	R'000	R'000	R'000	R'000
RI Immovable assets	-	-	-	-	-
TOTAL	-	-	-	-	-

ANNEXURES TO THE ANNUAL FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 MARCH 2010

ANNUAL REPORT 2009/10

ANNEXURE IC

STATEMENT OF TRANSFERS TO DEPARTMENTAL AGENCIES AND ACCOUNTS

DEPARTMENT/ AGENCY/ ACCOUNT	TRANSFER ALLOCATION				TRANSFER			2008/09
	Adjusted Appropriation Act	Rollovers	Adjustments	Total available	Actual transfer	% of available funds transferred	Appropriation Act	
	R'000	R'000	R'000	R'000	R'000	%	R'000	
Africa Institute of South Africa	29,280	-	-	29,280	29,280	100%	30,464	
Council for Geoscience	1,666	-	-	1,666	1,666	100%	11	
Human Sciences Research Council	166,185	-	-	166,185	172,410	104%	187,397	
National Research Foundation	2,026,511	-	7,000	2,033,511	2,035,321	100%	1,583,124	
South African Medical Research Council	2,957	-	-	2,957	2,801	95%	13,737	
South African National Biodiversity Institute	2,700	-	-	2,700	2,700	100%	2,700	
Agricultural Research Council	-	-	-	-	66,705	0%	54,223	
Total	2,229,299	-	7,000	2,236,299	2,310,883		1,871,656	

ANNEXURE ID

STATEMENT OF TRANSFERS TO UNIVERSITIES AND UNIVERSITIES OF TECHNOLOGY

UNIVERSITY/ TECHNIKON	TRANSFER ALLOCATION				TRANSFER			2008/09
	Adjusted Appropriation Act	Rollovers	Adjustments	Total available	Actual transfer	Amount not transferred	% of available funds transferred	Appropriation Act
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000
Cape Peninsula University of Technology	120	-	-	120	120	-	100%	-
Nelson Mandela Metropolitan University	120	-	-	120	120	-	100%	-
North West University	8,950	-	-	8,950	8,950	-	100%	9,489
FS Central University of Technology	470	-	-	470	470	-	100%	-

ANNEXURES TO THE ANNUAL FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 MARCH 2010

UNIVERSITY/ TECHNIKON	TRANSFER ALLOCATION				TRANSFER			2008/09
	Adjusted Appropriation Act	Rollovers	Adjustments	Total available	Actual transfer	Amount not transferred	% of available funds transferred	Appropriation Act
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000
Tshwane University of Technology	57	-	-	57	57	-	100%	58
University of Cape Town	41,045	-	-	41,045	34,617	6,428	84%	14,436
University of Fort Hare	200	-	-	200	200	-	100%	398
University of the Free State	-	-	-	-	-	-	-	200
University of Johannesburg	100	-	-	100	100	-	100%	20
University of KwaZulu- Natal	1,300	-	-	1,300	1,300	-	100%	887
University of Limpopo	-	-	-	-	-	-	-	420
University of Pretoria	4,869	-	-	4,869	4,869	-	100%	414
University of Rhodes	-	-	-	-	-	-	-	100
Stellenbosch University	9,144	-	-	9,144	9,144	-	100%	12,916
University of Venda	120	-	-	120	120	-	100%	400
University of the Western Cape	38,350	-	-	38,350	38,350	-	100%	27,568
University of the Witwatersrand	14,530	-	-	14,530	14,530	-	100%	1,446
University of Zululand	500	-	-	500	500	-	100%	700
Total	119,875	-	-	119,875	113,447	6,428		69,452

ANNEXURE IE

STATEMENT OF TRANSFERS/SUBSIDIES TO PUBLIC CORPORATIONS AND PRIVATE ENTERPRISES

NAME OF PUBLIC CORPORATION/ PRIVATE ENTERPRISE	TRANSFER ALLOCATION				EXPENDITURE				2008/09
	Adjusted Appropriation Act	Rollovers	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
Public Corporations									
Transfers									
Council for Mineral Technology (Mintek)	36,611	-	-	36,611	36,611	100%	20,000	16,611	42,978
Council for Scientific and Industrial Research	508,472	-	1,200	509,672	487,776	96%	164,793	322,983	458,632
Nuclear Energy Corporation of SA	7,146	-	-	7,146	7,146	100%	-	7,146	18,908
Subtotal	552,229	-	1,200	553,429	531,533		184,793	346,740	520,518
Subsidies									
Council for Scientific and Industrial Research	599,384	-	-	599,384	599,384	100%	-	599,384	554,687
Subtotal	599,384	-	-	599,384	599,384		-	599,384	554,687

ANNEXURES TO THE ANNUAL FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 MARCH 2010

NAME OF PUBLIC CORPORATION/ PRIVATE ENTERPRISE	TRANSFER ALLOCATION				EXPENDITURE				2008/09
	Adjusted Appropriation Act	Rollovers	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:									
Transfers									
Aerosud Innovation and Training	55	-	-	55	55	100%	-	55	-
Bansha Investment (Pty) Ltd	19	-	-	19	19	100%	-	19	-
Boipelo Strategic Management Service	250	-	-	250	250	100%	-	250	-
Oao Makeyev Grts	2,090	-	-	2,090	2,090	100%	-	2,090	-
Pelchem (Pty) Ltd	8,879	-	-	8,879	8,879	100%	5,871	3,008	-
South African National Energy Research Institute (Pty) Ltd	34,119	-	-	34,119	34,119	100%	-	34,119	-
System Application Products	100	-	-	100	100	100%	-	100	-
Telkom SA Ltd	2,000	-	-	2,000	2,000	100%	2,000	-	-
The Da Vinci Institute	3,979	-	-	3,979	3,979	100%	-	3,979	-
The Innovation Hub Management Co	406	-	-	406	406	100%	-	406	-
Umvoto Africa (Pty) Ltd	111	-	-	111	111	100%	-	111	-
Wits Commercial Enterprise Pty (Ltd)	410	-	-	410	410	100%	-	410	-
Subtotal	52,418	-	-	52,418	52,418		7,871	44,547	-
Total	1,204,031	-	-	1,205,231	1,183,335		192,664	990,671	1,075,205

ANNEXURE IG

STATEMENT OF TRANSFERS TO NON-PROFIT INSTITUTIONS

NON-PROFIT INSTITUTIONS	TRANSFER ALLOCATION				EXPENDITURE		2008/09
	Adjusted Appropriation Act	Rollovers	Adjustments	Total available	Actual transfer	% of available funds transferred	Appropriation Act
	R'000	R'000	R'000	R'000	R'000	%	R'000
Transfers							
Academy of Science of South Africa	13,793	-	-	13,793	13,793	100%	6,750
Bakomosa Science and Technology Education Centre	-	-	-	-	-	-	285
Beyond 2000 Publishers	1,200	-	-	1,200	1,200	100%	1,000
Bio2Biz SA 2008	-	-	-	-	-	-	150
Biopad Trust	48,033	-	-	48,033	22,500	47%	66,230
Black Science, Technology and Engineering Professionals	-	-	-	-	-	-	3,844
Cape Biotech Trust	58,533	-	-	58,533	33,000	56%	49,757
Da Vinci Integration Enterprises (Pty) Ltd	-	-	-	-	-	-	2,280
Development Bank of South Africa	-	-	-	-	-	-	290
Dr K Parker	1	-	-	1	1	100%	46
Dr P Masangane	-	-	-	-	-	-	5
East Coast Biotechnology Innovation Centre Trust	85,975	-	-	85,975	60,433	70%	57,426
High Impact Innovation	-	-	-	-	-	-	331
Higher Education South Africa	-	-	-	-	-	-	97
Interactive Science Foundation	-	-	-	-	-	-	250
Genetic Engineering and Biotechnology	-	-	-	-	-	-	10,000
International Centre for Genetic Engineering and Biotechnology	10,000	-	-	10,000	10,000	100%	-
International Congress of Entomology 2008	-	-	-	-	-	-	100
iThemba LABS	-	-	-	-	-	-	1,295
Ivory Park Secondary School	-	-	-	-	-	-	3
Limpopo Province Education Development Trust	-	-	-	-	-	-	124

ANNEXURES TO THE ANNUAL FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 MARCH 2010

NON-PROFIT INSTITUTIONS	TRANSFER ALLOCATION				EXPENDITURE		2008/09
	Adjusted Appropriation Act	Rollovers	Adjustments	Total available	Actual transfer	% of available funds transferred	Appropriation Act
	R'000	R'000	R'000	R'000	R'000	%	R'000
National Bioinformatics Network	513	-	-	513	513	100%	4,149
National Flagship Institution	11	-	-	11	11	100%	
National Institute of Higher Education	120	-	-	120	120	100%	650
National Science and Technology Forum	5,946	-	-	5,946	5,946	100%	18,510
National Youth Service Programme	10,000	-	-	10,000	10,000	100%	-
Nuclear Energy Corporation of South Africa	-	-	-	-	-		16,500
Osizweni Education and Development Centre	-	-	-	-	-		250
Pelchem (Pty) Ltd	-	-	-	-	-	-	9,922
Psychological Society of South Africa	-	-	-	-	-		300
Plantbio Trust	52,539	-	-	52,539	52,539	100%	36,000
Prof. N Potgieter	-	-	-	-	-		2
Roger Layton Associates (RLA) (Pty) Ltd	-	-	-	-	-		39
Sci-Bono Discovery Centre	70	-	-	70	70	100%	217
Science Education Foundation	-	-	-	-	-		190
South African Agency for Science and Technology Advancement	5,138	-	-	5,138	5,138	100%	16,795
South African Association of Science and Technology Centres	420	-	-	420	420	100%	550
South African Chemical Institute	40	-	-	40	40	100%	220
South African Institute of Civil Engineering	-	-	-	-	-		80
South African Institute for Electrical Engineers	20	-	-	20	20	100%	-
South African Institute of Physics	1,181	-	-	1,181	1,181	100%	207
South African Institute of Tribology	800	-	-	800	800	100%	

NON-PROFIT INSTITUTIONS	TRANSFER ALLOCATION				EXPENDITURE		2008/09
	Adjusted Appropriation Act	Rollovers	Adjustments	Total available	Actual transfer	% of available funds transferred	Appropriation Act
	R'000	R'000	R'000	R'000	R'000	%	R'000
South African Mathematics Foundation	2,865	-	-	2,865	2,865	100%	3,976
South African National Energy Research Institute	-	-	-	-	-	-	54,268
Southern African Research and Innovation Management Association	2,092	-	-	2,092	2,092	100%	414
Telkom South Africa	-	-	-	-	-	-	1,800
The Innovation Hub Management Company (Pty) Ltd	-	-	-	-	-	-	527
The National Institute for Communicable Diseases	-	-	-	-	-	-	200
The Thuthuka Education Upliftment Fund	9,788	-	-	9,788	9,788	100%	7,500
The Water Research Commission	100	-	-	100	100	100%	636
Tshumisano Trust	49,937	-	-	49,937	49,937	100%	50,100
Vene Muskett Web Design Studio	-	-	-	-	-	-	11
Wits Commercial Enterprise (Pty) Ltd	-	-	-	-	-	-	44
Wits Health Consortium (Pty) Ltd.	-	-	-	-	-	-	55
World Meteorological Organisation	1,000	-	-	1,000	1,000	100%	-
Total	360,115	-	-	360,115	283,507		424,375
Subsidies							
Academy of Science of South Africa	-	-	-	-	-	-	5,570
	-	-	-	-	-	-	5,570
Total	360,115	-	-	360,115	283,507		429,945

ANNEXURES TO THE ANNUAL FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 MARCH 2010

ANNEXURE IH

STATEMENT OF TRANSFERS TO HOUSEHOLDS

HOUSEHOLDS	TRANSFER ALLOCATION				EXPENDITURE		2008/09
	Adjusted Appropriation Act	Rollovers	Adjustments	Total available	Actual transfer	% of available funds transferred	Appropriation Act
	R'000	R'000	R'000	R'000	R'000	%	R'000
Transfers							
Retirement benefits:							
Mangena MA	-	-	-	-	452	-	-
TOTAL	-	-	-	-	452		-

The retirement benefit of former Minister MA Mangena is once-off gratuity paid to Members of the Executive who served in the Executive for more than five years. This benefit is unrequited and therefore is paid against Standard Charts of Accounts (SCOA) item Households Service Benefit: Post Retirement Benefit as an all inclusive retirement package.

ANNEXURE IJ

STATEMENT OF LOCAL AND FOREIGN AID ASSISTANCE RECEIVED

NAME OF DONOR	PURPOSE	OPENING		CLOSING	
		Balance	Revenue	Expenditure	Balance
		R'000	R'000	R'000	R'000
Received in cash					
Australia	Science Centre Managers Training Programme	-	792	792	-
Canada	Epidemiological Model for HIV/AIDS Programme	-	3,221	3,220	1
Finland	BioFISA	-	4,242	4,242	-
Finland	Supporting the development of provincial and local systems of innovation in the Eastern Cape, Gauteng and the Western Cape.	-	10,716	10,716	-
Finland	Science and Technology in ICT, framework Programme (SAFIPA)	-	8,727	8,727	-
European Union	Innovation for Poverty Alleviation Programme	-	24,251	22,191	2,060

NAME OF DONOR	PURPOSE	OPENING		CLOSING	
		Balance	Revenue	Expenditure	Balance
		R'000	R'000	R'000	R'000
European Union	Coordination and Advancement of Sub-Saharan Africa – EU Science and Technology Network (CAAST-Net)	-	332	154	178
European Union	Strengthening the European – South African Science and Advancement Programme (ESASTAP2)	-	4,080	1,176	2,904
United States Agency for International Development	Indigenous Knowledge System Workshop	-	308	308	-
United States Agency for International Development	Malawi Paphogen Free Potato	-	168	-	168
Subtotal		-	56,837	51,526	5,311
Received in kind					
Canada	Research chair management training through Capacity Building Programme from Canadian International Development Agency (CIDA)	-	328	328	-
Government of France	The extension of F'SATIE Scientific Director	-	14,850	4,950	9,900
Government of Germany	Technical Assistant - Improved Bilateral Relationships with the German National System of Innovation	-	449	449	-
Japan	Productivity training to increase the employability level of science and technology graduates	-	400	400	-
Japan	Science Centre Senior Volunteers in the Eastern Cape, Limpopo and North West - To support science centres with developing teaching material for science and mathematics education and develop exhibitions	-	3,500	3,500	-
Japan	Technical Assistant - Improved Bilateral Relationships with the Japanese National System of Innovation	-	1,700	1,700	-
Japan	The Hitachi Scholarship for two South African engineers	-	300	300	-

ANNEXURES TO THE ANNUAL FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 MARCH 2010

NAME OF DONOR	PURPOSE	OPENING		CLOSING	
		Balance	Revenue	Expenditure	Balance
		R'000	R'000	R'000	R'000
Subtotal		-	21,527	21,527	9,900
Total		-	78,364	73,053	15,211

ANNEXURE 1K

STATEMENT OF GIFTS, DONATIONS AND SPONSORSHIPS MADE AND REMISSIONS, REFUNDS AND PAYMENTS MADE AS AN ACT OF GRACE

NATURE OF GIFT, DONATION OR SPONSORSHIP (Group major categories but list material items including name of organisation)	2009/10	2008/09
	R'000	R'000
Paid in cash		
South African Women in Science Awards	250	350
TOTAL	250	350

ANNEXURE 3A

STATEMENT OF FINANCIAL GUARANTEES ISSUED AS AT 31 MARCH 2010 – LOCAL

Guarantor institution	Guarantee in respect of	Original guaranteed capital amount	Opening balance 1 April 2009	Guarantees draw downs during the year	Guarantees repayments/ cancelled/ reduced/ released during the year	Revaluations	Closing balance 31 March 2010	Guaranteed interest for year ended 31 March 2010	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		97	97	-	-	-	97	-	-
Standard Bank		12	12	-	12	-	-	-	-

Guarantor institution	Guarantee in respect of	Original guaranteed capital amount	Opening balance 1 April 2009	Guarantees draw downs during the year	Guarantees repayments/ cancelled/ reduced/ released during the year	Revaluations	Closing balance 31 March 2010	Guaranteed interest for year ended 31 March 2010	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
First National Bank		28	28	-	-	-	28	-	-
Nedbank		67	67	-	-	-	67	-	-
Total		204	204	-	12	-	192	-	-

ANNEXURE 4

CLAIMS RECOVERABLE

Government Entity	Confirmed balance outstanding		Unconfirmed balance outstanding		Total	
	31/03/2010	31/03/2009	31/03/2010	31/03/2009	31/03/2010	31/03/2009
	R'000	R'000	R'000	R'000	R'000	R'000
Department						
Department of Arts and Culture	-	21	-	-	-	21
Department of Correctional Services	-	-	-	5	-	5
Department of Defence	34	-	-	-	34	-
Department of Rural Development and Land Reform	-	23	-	-	-	23
Department of Water Affairs Polokwane	-	-	-	7	-	7
Department of Water Affairs Pretoria	-	5	-	-	-	5
Gauteng Department of Social Development	-	-	-	8	-	8
Road Traffic Management Corporation	-	-	-	34	-	34
The Presidency	44	-	-	-	44	-
Subtotal	78	49	-	54	78	103

ANNEXURES TO THE ANNUAL FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 MARCH 2010

Government Entity	Confirmed balance outstanding		Unconfirmed balance outstanding		Total	
	31/03/2010	31/03/2009	31/03/2010	31/03/2009	31/03/2010	31/03/2009
	R'000	R'000	R'000	R'000	R'000	R'000
Other government entities						
Government Employee Pension Fund	-	-	1	19	1	19
Subtotal	-	-	1	19	1	19
Total	78	49	1	73	79	122

ANNEXURE 5

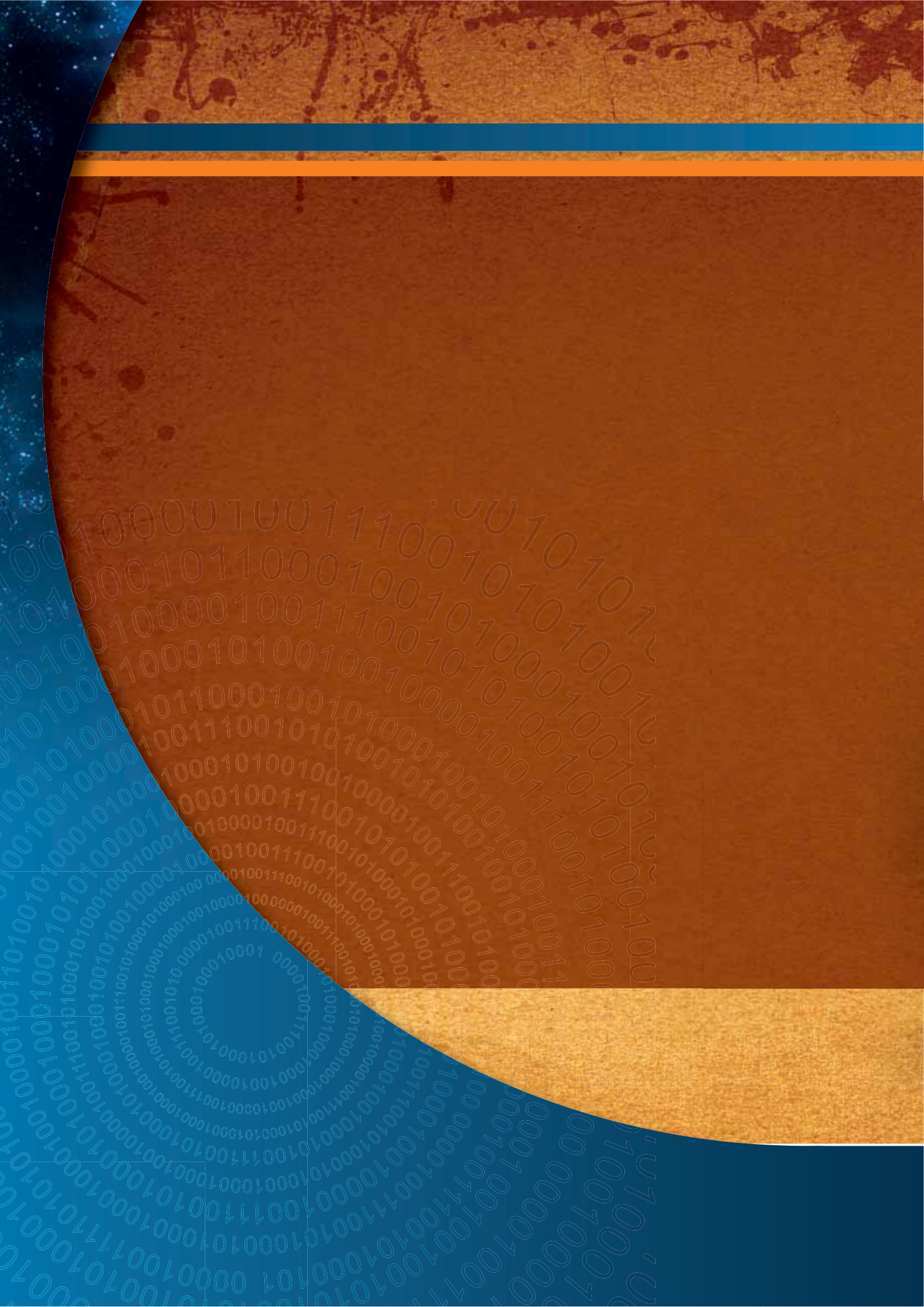
INTER-GOVERNMENT PAYABLES

GOVERNMENT ENTITY	Confirmed balance outstanding		Unconfirmed balance outstanding		TOTAL	
	31/03/2010	31/03/2009	31/03/2010	31/03/2009	31/03/2010	31/03/2009
	R'000	R'000	R'000	R'000	R'000	R'000
DEPARTMENTS						
Current						
Gauteng Provincial Department of Education	72	-	-	-	72	-
Office of the Premier: Free State	1	-	-	-	1	-
Total	73	-	-	-	73	-
OTHER GOVERNMENT ENTITY						
Current						
Public Administration Leadership and Management Academy	-	290	-	-	-	290
Total	-	290	-	-	-	290

ANNEXURE 6**INVENTORY**

	Note	Quantity	2009/10 R'000
Inventory			
Opening balance		13,456	451
Add/(Less): Adjustments to prior year balance		-	-
Add: Additions/Purchases - Cash		25,998	2,445
Add: Additions - Non-cash		368	3
(Less): Disposals		-	-
(Less): Issues		(25,438)	(2,519)
Add/(Less): Adjustments		244	1
Closing balance		14,628	381

Total cash additions in the goods and services note includes the purchase of consumables that are not recorded in the inventory management system of the Department. Hence the additions for the year in the inventory annexure will not tie up to the total cash additions in the goods and services note (note 5.5).





HUMAN RESOURCES

HUMAN RESOURCES

FOR THE YEAR ENDED 31 MARCH 2010

1.1 Personnel costs by programme, 2009/10						
Programme	Total expenditure (R'000)	Personnel expenditure (R'000)	Training expenditure (R'000)	Professional and special services (R'000)	Personnel cost as a per cent of total expenditure	Average personnel cost per employee (R'000)
Corporate Services	159 123	82 637	6 677	9 185	51,93%	424
Research, Development and Innovation	602 057	17 137	0	631	2,85%	571
International Cooperation and Resources	88 194	27 914	0	3	31,65%	527
Human Capital and Knowledge Systems	710 092	18 111	0	381	2,55%	464
Socio-Economic Partnerships	391 010	21 687	0	3 478	5,55%	452
Total	1 950 476	167 486	6 677	13 678	8,59%	459

1.2 Personnel costs by salary bands, 2009/10			
Salary bands	Personnel expenditure (R'000)	% of total personnel cost	Average personnel cost per employee (R'000)
Lower skilled (Levels 1-2)	0	0,00%	0
Skilled (Levels 3-5)	1 565	0,93%	157
Highly skilled production (Levels 6-8)	15 767	9,41%	173
Highly skilled supervision (Levels 9-12)	74 396	44,42%	423
Senior management (Levels 13-16)	75 758	45,23%	861
Total	167 486	100%	459

1.3 Salaries, overtime, home owner's allowance and medical assistance by Programme, 2009/10								
Programme	Salaries		Overtime		Home owner's allowance		Medical assistance	
	Amount (R'000)	Salaries as a % of personnel cost	Amount (R'000)	Overtime as a % of personnel cost	Amount (R'000)	HOA as a % of personnel cost	Amount (R'000)	Medical assistance as a % of personnel cost
Corporate Services	82 637	49,34%	192	0,23%	30	0,04%	1 830	2,21%
Research, Development and Innovation	17 137	10,23%	0	0,00%	3	0,02%	267	1,56%
International Cooperation and Resources	27 914	16,67%	8	0,03%	4	0,01%	479	1,72%
Human Capital and Knowledge Systems	18 111	10,81%	3	0,02%	2	0,01%	353	1,95%

I.3 Salaries, overtime, home owner's allowance and medical assistance by Programme, 2009/10

Programme	Salaries		Overtime		Home owner's allowance		Medical assistance	
	Amount (R'000)	Salaries as a % of personnel cost	Amount (R'000)	Overtime as a % of personnel cost	Amount (R'000)	HOA as a % of personnel cost	Amount (R'000)	Medical assistance as a % of personnel cost
Socio-Economic Partnerships	21 687	12,95%	0	0,00%	3	0,01%	473	2,18%

I.4 Salaries, overtime, home owner's allowance and medical assistance by salary bands, 2009/10

Salary bands	Salaries		Overtime		Home owner's allowance		Medical assistance	
	Amount (R'000)	Salaries as a % of personnel cost	Amount (R'000)	Overtime as a % of personnel cost	Amount (R'000)	HOA as a % of personnel cost	Amount (R'000)	Medical assistance as a % of personnel cost
Lower skilled (Levels 1-2)	0	0,00%	0	0,00%	0	0,00%	0	0,00%
Skilled (Levels 3-5)	1 565	0,93%	40	0,02%	2	0,00%	69	0,04%
Highly skilled production (Levels 6-8)	15 767	9,41%	54	0,03%	20	0,01%	921	0,55%
Highly skilled supervision (Levels 9-12)	74 396	44,42%	109	0,07%	20	0,01%	990	0,59%
Senior management (Levels 13-16)	75 758	45,23%	0	0	0	0,00%	0	0
Total	167 486	100,00%	203	0,12%	42	0,03%	1980	1,18%

HUMAN RESOURCES

FOR THE YEAR ENDED 31 MARCH 2010

2. Employment and vacancies

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

2.1 Employment and vacancies by Programme, 31 March 2010				
Programme	Number of posts	Number of posts filled	Vacancy rate	Number of posts filled additional to the establishment
Corporate Services	214	195	8,88%	3
Research, Development and Innovation	38	30	21,05%	
International Cooperation and Resources	61	53	13,11%	
Human Capital and Knowledge Systems	43	39	9,30%	
Socio-Economic Partnerships	60	48	20,00%	
Total	416	365	12,26%	3

2.2 Employment and vacancies by salary bands, 31 March 2010				
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)	29	10	65,52%	
Highly skilled production (Levels 6-8)	98	91	7,14%	3
Highly skilled supervision (Levels 9-12)	178	176	1,12%	
Senior management (Levels 13-16)	111	88	20,72%	
Total	416	365		3

3. Job Evaluation

3.1 Job Evaluation, 1 April 2009 to 31 March 2010							
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)	29	0	0,00%	0	0,00%	0	—
Highly skilled production (Levels 6-8)	98	3	3,06%	1	33,33%	0	—
Highly skilled supervision (Levels 9-12)	178	5	2,81%	3	1,69%	0	—
Senior Management Service Band A	76	2	2,63%	0	0,00%	0	—
Senior Management Service Band B	25	4	16,00%	1	25,00%	0	—

3.1 Job Evaluation, 1 April 2009 to 31 March 2010

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
Senior Management Service Band C	9	1	11,11%	0	0,00%	0	–
Senior Management Service Band D	1	0	0,00%	0	0,00%	0	–
Total	416	15	3,61%	5	1,20%	0	–

3.2 Profile of employees whose salary positions were upgraded due to their posts being upgraded, 1 April 2009 to 31 March 2010

Beneficiaries	African	Asian	Coloured	White	Total
Female	2				2
Male	2				2
Total	4	0	0	0	4

4. Employment changes

4.1 Annual turnover rates by salary band for the period 1 April 2009 to 31 March 2010

Salary Band	Number of employees per band as on 1 April 2009	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)	11	5	4	36,36%
Highly skilled production (Levels 6-8)	82	20	17	20,73%
Highly skilled supervision (Levels 9-12)	158	28	15	9,49%
Senior Management Service Band A	57	8	7	12,28%
Senior Management Service Band B	25	1	3	12,00%
Senior Management Service Band C	5	3	2	40,00%
Senior Management Service Band D	1	0	0	0,00%
Total	339	65	48	14,16%

4.2 Reasons why staff are leaving the Department

Termination type	Number	% of total
Death	2	4,17%
Resignation	16	33,33%
Expiry of contract	21	43,75%
Dismissal – operational changes	1	2,08%
Dismissal – misconduct	0	0,00%
Dismissal – inefficiency	0	0,00%

HUMAN RESOURCES

FOR THE YEAR ENDED 31 MARCH 2010

4.2 Reasons why staff are leaving the Department		
Termination type	Number	% of total
Discharged due to ill-health	0	0,00%
Retirement	2	4,17%
Transfers to other Public Service Departments	6	12,50%
Other	0	0,00%
Total	48	
Total number of employees who left as a % of the total employment		14,16%

4.3 Promotions by salary band					
Salary band	Employees 1 April 2009	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)	11	0	0,00%	7	63,64%
Highly skilled production (Levels 6-8)	82	1	1,22%	63	76,83%
Highly skilled supervision (Levels 9-12)	158	3	1,90%	95	60,13%
Senior management (Levels 13-16)	88	5	5,68%	54	61,36%
Total	339	9	2,65%	219	64,60%

5. Employment equity

The tables in this section are based on the formats prescribed by the Employment Equity Act, 1998.

5.1 Total number of employees (including employees with disabilities) in each of the following occupational categories as on 31 March 2010								
Occupational categories	Male				Female			
	African	Coloured	Indian	White	African	Coloured	Indian	White
Management (Levels 13 – 16)	38	3	5	8	21	2	2	9
Middle management (Levels 9 -12)	64	3	2	6	82	5	6	8
Administrative (Levels 6 – 8)	20	3	0	1	54	5	1	7
Clerical (Levels 3 – 5)	6	0	0	0	4	0	0	0
Elementary occupations (Levels 1 – 2)	0	0	0	0	0	0	0	0
Total	128	9	7	15	161	12	9	24
Employees with disabilities	1	0	1	2	2	0	0	1

5.2 Total number of employees (including employees with disabilities) in each of the following occupational bands as on 31 March 2010

Occupational bands	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top Management (Levels 15 – 16)	3			2		1	1		7
Senior Management (Levels 13 – 14)	35	3	5	6	21	1	1	9	81
Professionally qualified and experienced specialists and mid-management (Levels 9 – 12)	64	3	2	6	82	5	6	8	176
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents (Levels 6 – 8)	20	3		1	54	5	1	7	91
Semi-skilled and discretionary decision making (Levels 3 – 5)	6				4				10
Unskilled and defined decision making (Levels 1 – 2)									0
Total	128	9	7	15	161	12	9	24	365

5.3 Recruitment for the period 1 April 2009 to 31 March 2010

Occupational bands	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top Management (Levels 15 – 16)	1			1			1		3
Senior Management (Levels 13 – 14)	3			1	2			2	8
Professionally qualified and experienced specialists and mid-management (Levels 9 – 12)	12		1	2	9		1	3	28
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents (Levels 6 – 8)	7	1			10	1		2	21

HUMAN RESOURCES

FOR THE YEAR ENDED 31 MARCH 2010

5.3 Recruitment for the period 1 April 2009 to 31 March 2010									
Occupational bands	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Semi-skilled and discretionary decision making (Levels 3 – 5)	4				1				5
Unskilled and defined decision making (Levels 1 – 2)									0
Total	27	1	1	4	22	1	2	7	65

5.4 Promotions for the period 1 April 2009 to 31 March 2010									
Occupational bands	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top Management (Levels 15 – 16)									0
Senior Management (Levels 13 – 14)	4				1				5
Professionally qualified and experienced specialists and mid-management (Levels 9 – 12)					2	1			3
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents (Levels 6 – 8)	1								1
Semi-skilled and discretionary decision making (Levels 3 – 5)									0
Unskilled and defined decision making (Levels 1 – 2)									0
Total	5	0	0	0	3	1	0	0	9

5.5 Terminations for the period 1 April 2009 to 31 March 2010

Occupational bands	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top Management (Levels 15 – 16)	1				1				2
Senior Management (Levels 13 – 14)	5							1	6
Professionally qualified and experienced specialists and mid-management (Levels 9 – 12)	2	1	2	2	8	1	1		17
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents (Levels 6 – 8)	7				9	1		2	19
Semi-skilled and discretionary decision making (Levels 3 – 5)	3				1				4
Unskilled and defined decision making (Levels 1 – 2)									0
Total	18	1	2	2	19	2	1	3	48

6. Performance rewards

TABLE 6.1 Performance rewards by race, gender, and disability

	Beneficiary profile			Cost	
	Number of beneficiaries	Total number of employees in group	% of total within group	Cost (R'000)	Average cost per employee (R'000)
African					
Male	72	128	56,25%	2517	35
Female	116	161	72,05%	2845	25
Asian					
Male	6	7	85,71%	283	47
Female	6	9	66,67%	192	32
Coloured					
Male	4	9	44,44%	90	23
Female	9	12	75,00%	222	25
White					

HUMAN RESOURCES

FOR THE YEAR ENDED 31 MARCH 2010

TABLE 6.1 Performance rewards by race, gender, and disability

	Beneficiary profile			Cost	
	Number of beneficiaries	Total number of employees in group	% of total within group	Cost (R'000)	Average cost per employee (R'000)
Male	7	15	46.67%	212	30
Female	9	24	37.50%	277	31
Employees with a disability					
Total	229	365	62.74%	6638	29

6.2 Performance Agreements submitted: 30 May 2009

Number of employees	Number submitted	Number not submitted	Reasons for non-compliance
85	75	10	International assignments
			Newly appointed employees have three months to comply
			Non-compliance

6.3 Performance rewards by salary bands for personnel below Senior Management Service

Salary bands	Beneficiary Profile			Cost		
	Number of beneficiaries	Number of employees	% of total within salary bands	Total cost (R'000)	Average cost per employee (R'000)	Total cost as a % of the total personnel expenditure
Lower skilled (Levels 1-2)	0	0	0,00%	0,00	0,00	0,00%
Skilled (Levels 3-5)	8	10	80,00%	54	6,75	0,03%
Highly skilled production (Levels 6-8)	66	90	73,33%	903	13,68	0,54%
Highly skilled supervision (Levels 9-12)	114	176	64,77%	3022	26,51	1,80%
Total	188	276	68,12%	3 979	21,16	2,38%

6.4 Performance-related rewards (cash bonus), by salary band, for Senior Management Service

	Beneficiary profile			Total cost ('000)	Average cost per employee	Total cost as a % of the total personnel expenditure
	Number of beneficiaries	Number of employees	% of total within band			
Band A	25	59	42,37%	1371	27	0,82%
Band B	11	22	50,00%	783	33	0,47%
Band C	4	6	66,67%	356	38	0,21%
Band D	1	1	100,00%	149	149	0,09%
Total	41	88	46,59%	2659	62	1,59%

7. Leave Utilisation

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 January 2009 to 31 December 2009						
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)	49	3,55%	7	87,50%	7,00	21
Highly skilled production (Levels 6-8)	498	36,03%	83	91,21%	6,00	236
Highly skilled supervision (Levels 9-12)	642	46,45%	128	87,67%	5,02	743
Senior management (Levels 13-16)	193	13,97%	48	60,76%	4,02	455
Total	1 382	20,00%	266	82,10%	5,20	1 455

7.2 Disability leave (temporary and permanent), 1 January 2009 to 31 December 2009						
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)	0	0%	0	0,00%	0	0
Highly skilled production (Levels 6-8)	15	100%	1	0,55%	11,5	1 478
Highly skilled supervision (Levels 9-12)	8	100%	1	0,55%	6	1 949
Senior management (Levels 13-16)	0	0%	0	0,00%	0	0
Total	23	100%	2	1,10%	8,75	3 427

HUMAN RESOURCES

FOR THE YEAR ENDED 31 MARCH 2010

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.

7.3 Annual Leave, 1 January 2009 to 31 December 2009		
Salary band	Number of days	Average days per employee
Lower skilled (Levels 1-2)	0	0,00
Skilled (Levels 3-5)	100	10,00
Highly skilled production (Levels 6-8)	1 180	12,97
Highly skilled supervision (Levels 9-12)	2 111	11,99
Senior management (Levels 13-16)	962	10,93
Total	4353	13,23

7.4 Capped leave, 1 January 2009 to 31 December 2009			
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)	4	4,00	14
Highly skilled production (Levels 6-8)	15	3,75	38
Highly skilled supervision (Levels 9-12)	4	0,80	30
Senior management (Levels 13-16)	13	3,25	34
Total	36	2,60	32

The following table summarises payments made to employees as a result of leave that was not taken.

7.5 Leave payouts for the period 1 April 2009 to 31 March 2010			
Reason	Total Amount (R'000)	Number of Employees	Average payment per employee ('000)
Leave payout for 2009/10 due to non-utilisation of leave for the previous cycle	133	18	7,39
Capped leave payouts on termination of service for 2009/010	74,00	3	24,67
Current leave payout on termination of service for 2009/10	103	11	9,36
Total	310	32	9,69

Training and development 2009/10				
Occupational categories	Number of employees as at 2009/10	Gender	Beneficiaries of skills/ short programmes per occupational category	Leamership
Legislators, senior officials	88	Female	20	0
		Male	33	
Professional	176	Female	40	0
		Male	30	
Technicians	26	Female	1	0
		Male	2	
Clerks	64	Female	23	0
		Male	1	
Elementary occupation	10	Female	4	0
		Male	12	
SUBTOTAL		Female	88	0
		Male	78	
TOTAL	364		166	

8. HIV and Aids & health promotion programmes

TABLE 8.1 Details of Health Promotion and HIV and AIDS Programmes (tick the applicable boxes and provide the required information)

Question	Yes	No	Details, if yes
1. Has the Department designated a member of the SMS to implement the provisions contained in Part VI E of Chapter I of the Public Service Regulations, 2001? If so, provide her/his name and position.	√		Chief Director: Human Resources, Ms. Lerato Gumbi
2. Does the Department have a dedicated unit or has it designated specific staff members to promote the health and well being of its employees? If so, indicate the number of employees who are involved in this task and the annual budget that is available for this purpose.	√		Special Programmes Unit: Four employees. The budget for the HIV and AIDS programme is located within the Special Programmes Unit budget which is R1,578 million

HUMAN RESOURCES

FOR THE YEAR ENDED 31 MARCH 2010

TABLE 8.1 Details of Health Promotion and HIV and AIDS Programmes (tick the applicable boxes and provide the required information)

Question	Yes	No	Details, if yes
3. Has the Department introduced an employee assistance or health promotion programme for its employees? If so, indicate the key elements/services of this programme.	√		The Employee Health and Wellness Programme focuses on wellness management, health management and occupational health and safety. The Department has also appointed a service provider to provide employee wellness services which also enhances confidentiality and privacy for employees.
4. Has the Department established (a) committee(s) as contemplated in Part VI E.5 (e) of Chapter 1 of the Public Service Regulations, 2001? If so, please provide the names of the members of the committee and the stakeholder(s) that they represent.	√		The Health, Wellness and Safety Support Committee consists of the following: 1. Vivienne Gondwe (Chairperson) 2. Miranda Mohapi (Deputy Chairperson) 3. Sheila van Stryp (PSA union rep) 4. Dorothy Leshaba (NEHAWU union rep) 5. Loretta Pillay 6. George Seokane 7. Lydia Phasha 8. Siphwe Mngomezulu 9. Anneline Morgan 10. Johannah Moima 11. Swasti Soomaroo 12. Moema Maponya 13. Azwifarwi Phuravhathu 14. Nomvula Lekubu 15. Phumelele Magubane 16. Yandisa Ndaba 17. Fhulufhelo Mashila 18. Kgaugelo Sithole 19. Lerato Mokoena 20. Mabel Moabi 21. Mamohlala Mafokoane 22. Nhlanhla Makondo
5. Has the Department reviewed its employment policies and practices to ensure that these do not unfairly discriminate against employees on the basis of their HIV status? If so, list the employment policies/practices so reviewed.	√		The Department has implemented an HIV and Aids policy and an Employee Health and Wellness Programme policy, which will be reviewed in the 2010/11 financial year. TB will be incorporated in the HIV and Aids policy.

TABLE 8.1 Details of Health Promotion and HIV and AIDS Programmes (tick the applicable boxes and provide the required information)

Question	Yes	No	Details, if yes
6. Has the Department introduced measures to protect HIV-positive employees or those perceived to be HIV-positive from discrimination? If so, list the key elements of these measures.	√		The Department conducted an HIV Prevalence study to assess HIV prevalence levels. There were recommendations made to mitigate the impact of HIV and Aids. The Department conducted HIV and Aids education and awareness through behavioural change sessions focusing on sexual networks, stigma and condom use. In total four sessions were held.
7. Does the Department encourage its employees to undergo voluntary counselling and testing? If so, list the results that you have achieved.	√		The Department conducted four voluntary counselling and testing (VCT) drives in the last financial year and a total of 169 tests were done. The Department also conducted an HIV prevalence study in which 113 employees were tested. This allowed the Department to assess risk levels on HIV and also come up with interventions to mitigate the impact of HIV in the organisation.
8. Has the Department developed measures/ indicators to monitor and evaluate the impact of its health promotion programme? If so, list these measures/indicators.	√		The Department has got clear indicators which are monitored monthly and quarterly from the report generated during health screenings. The indicators are: The number of employees participating in the quarterly health screenings where employees can have their blood pressure, glucose, body mass index, cholesterol and HIV tested. The health screening provides employees with an opportunity to assess health risks and receive informed advice on how to manage those risks.

DST CORPORATE INFORMATION

FOR THE YEAR ENDED 31 MARCH 2010

The Department of Science and Technology
Private Bag X727
Pretoria, 0001

Director-General

Dr Phil Mjwara
Tel: (012) 843 6816

Deputy Director-General: Corporate Services and Governance

Mr Themba Dlamini
Tel: (012) 843-6632

Deputy Director-General: Research, Development and Innovation

Dr Val Munsami (Acting)
Tel: (012) 843-6822

Deputy Director-General: International Cooperation and Resources

Dr Thomas Auf de Heyde
Tel: (012) 843 6825

Deputy Director-General: Human Capital and Knowledge Systems

Dr Molapo Qhobela
Tel: (012) 843 6773

Deputy Director-General: Socio-Economic Partnerships

Ms Marjorie Pyoos
Tel: (012) 843 6834

Chief Operating Officer (Vacant)

Chief Financial Officer

Ms Malekgoloane Malapane
Tel: (012) 843 6717

Information Technology Officer (Vacant)

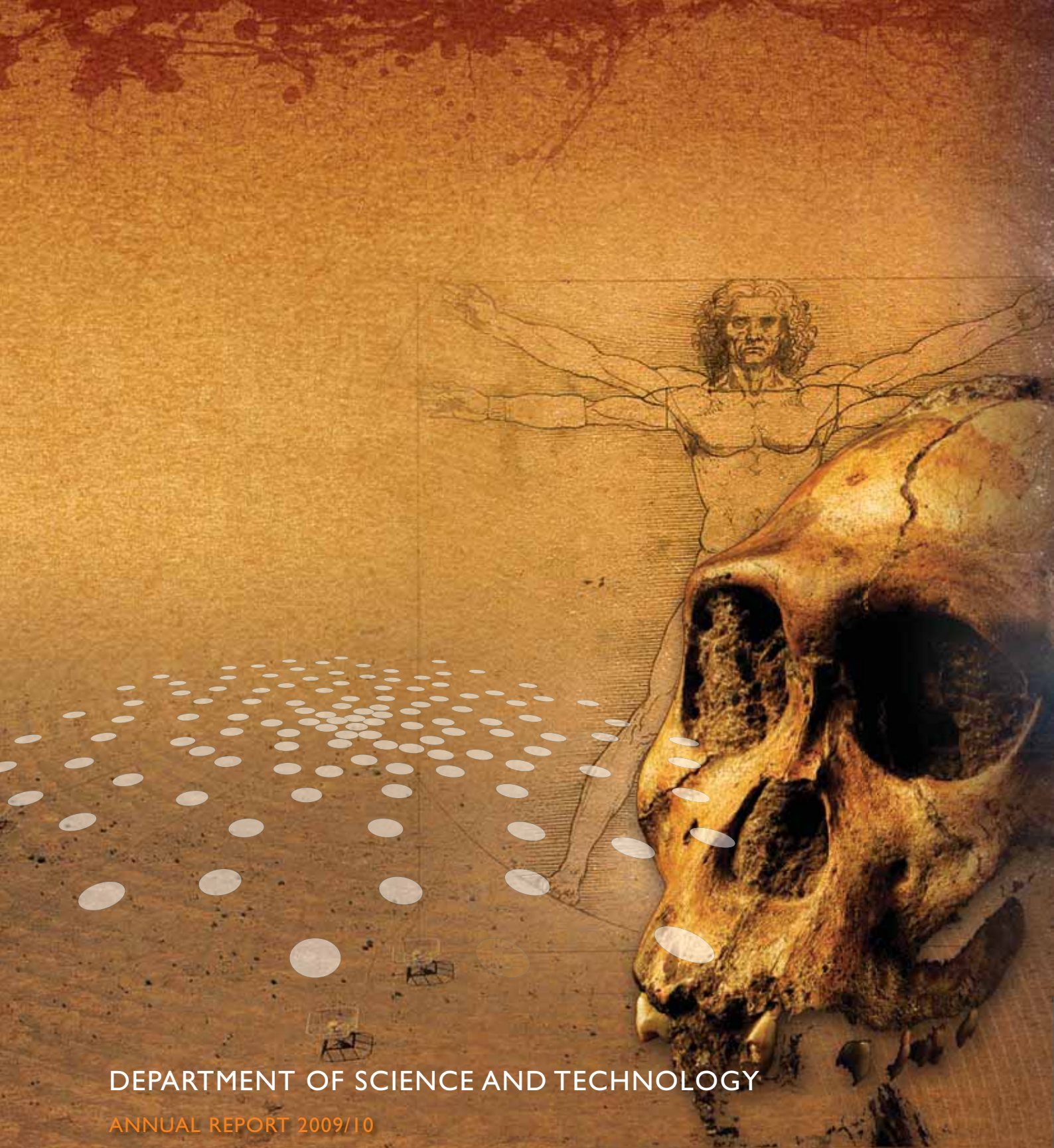
Communications

Mr Tommy Makhode
Tel: (012) 843 6793

Human Resources Management

Ms Lerato Gumbi
Tel: (012) 843 6706





DEPARTMENT OF SCIENCE AND TECHNOLOGY

ANNUAL REPORT 2009/10

Building 53, Meiring Naude Road, Scientia Campus

(CSIR) South Gate Entrance
Brummeria, Pretoria, 0001, South Africa
Tel. +27 (12) 843 6300
Fax. +27 (12) 349 1030
www.dst.gov.za