




kpireport
2009



The NRF's Vision 2015 underscores the need for excellence as a mind-set, inspiring whatever we do. The barometer of this collective attitude is the Key Performance Indicator (KPI Report) in which we measure our actions against previous years' and use current performance as a springboard for greater excellence.



kpi report

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Introduction

This Key Performance Indicator (KPI) report gives a high-level summary of the performance of the National Research Foundation (NRF) during the 2008/09 financial year. The report is structured according to the requirements of the Department of Science and Technology (DST) as set out in the *Review of the 2001/2002 Indicator Reports*. The structure includes the five perspectives of the Balanced Scorecard as adapted by the DST in May 2003.

Use of Key Performance Indicators (KPIs) and Balanced Scorecard by the NRF

Of the five Balanced Scorecard perspectives, four are regarded as internal NRF performance areas that support the ability of the NRF to achieve its strategic goals. These four perspectives include the:

- Financial/investment perspective;
- Organisational perspective;
- Organisational learning and growth perspective; and the
- Human resources and transformation perspective.

The fifth perspective – the stakeholder perspective – is used to measure the performance of the NRF within the context of its mandate provided by the National Research Foundation Act, Act No. 23 of 1998. This unique mandate requires the NRF to provide three main functions:

- **Science and technology advancement:** The South African Agency for Science and Technology Advancement (SAASTA) carries the responsibility to advance science in South Africa;
- **Research and innovation support:** The Research and Innovation Support and Advancement (RISA) business unit promotes research in a variety of ways; and
- **Research and research infrastructure provision:** The National Research Facilities undertake research and encourage the use of the facilities by other researchers in South Africa.

To create synergy between the respective business units of the NRF, a common set of corporate strategic goals has been set. Not all business units or programmes contribute equally to the strategic goals, as each business unit obviously has its own focus and purpose.

Comparison of KPIs across the National System of Innovation

The performance of the NRF is not directly comparable to that of other Science Councils that undertake research in a specific science domain or knowledge area. In the case of RISA, for example, the outcomes and impact of its activities – such as the disbursement of funds – are only achieved through the success of third parties: the research and innovation community. In the case of the National Research Facilities, research is conducted in-house but the facilities are also mandated to encourage other researchers to use the facilities to further independent research objectives.

Therefore, many of the performance indicators in this report focus on the performance of the NRF stakeholder community that acts as a proxy of the effectiveness of the NRF.

Performance measures: Work in progress

The KPI Report for 2008/09 is the last to follow the current format. The indicators in this format arose from the 2008/09 Business Plan and Shareholder Compact. As from 2009/10 the NRF Business Plan and Shareholder Compact provided a different set of indicators and related targets that speak more fluently to the NRF *Vision 2015*.

Stakeholder Perspective

Key result area: Support for and implementation of strategies within the NSI

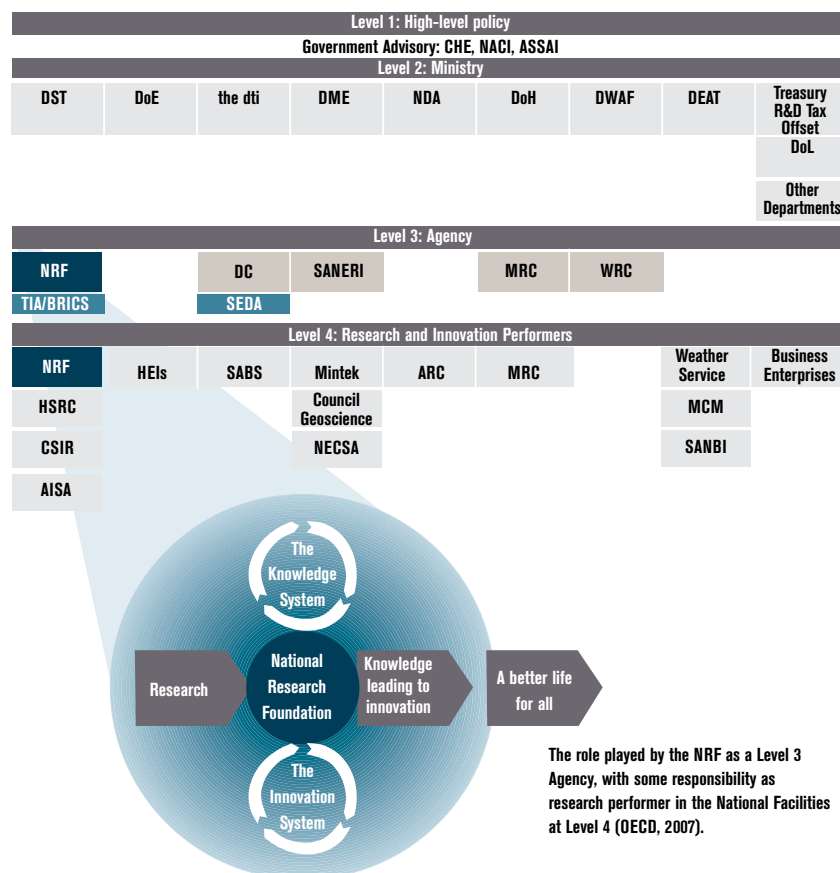
Position of the NRF in the NSI

The NRF is mandated to fulfill a dual role in the National System of Innovation (NSI). Figure 1 below illustrates the system by depicting

key role players distributed across four separate tiers.

The NRF not only fulfills the role of an agency that implements policy, adding as much value as possible (through the RISA and SAASTA functions), but it also performs research and provides research infrastructure through the National Research Facilities. Both functions are aligned with key national policies and imperatives that shape the NSI. Two examples are described below.

Figure 1: The South African Science landscape



Support for the National Research and Development (R&D) Strategy

This strategy recognises the strengths and weaknesses inherent in the NSI. Much attention is paid to the ageing cohort of researchers and the innovation chasm between a good research base and economic development.

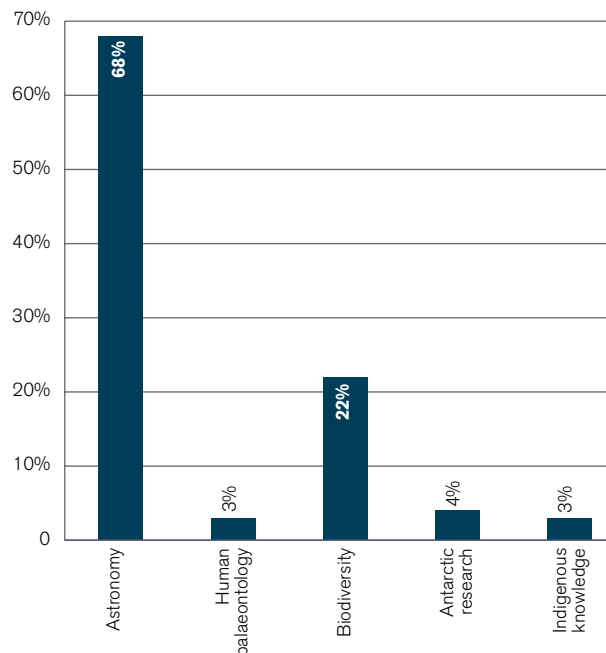
Centres of Excellence

The R&D strategy plans to maximise strengths and minimise weaknesses through a variety of initiatives, such as the creation of "centres and networks of excellence" that will raise the bar on existing excellence. In support of this, the NRF manages the DST/NRF Centres of Excellence (CoE) programme, which disburses almost R50 million per annum into seven Centres (see also page 11). After five years of operation these Centres are receiving outstanding reviews by independent peers, confirming that the investment has realised the objective of promoting excellent research outputs.

Areas of geographic advantage

The R&D strategy also identified a number of research areas where South Africa has a geographic advantage that are to be exploited by the country's researchers. Figure 2 below presents the NRF's support levels in the five prioritised research areas.

Figure 2: NRF support for the five geographical advantage research areas (from Grant Budget)



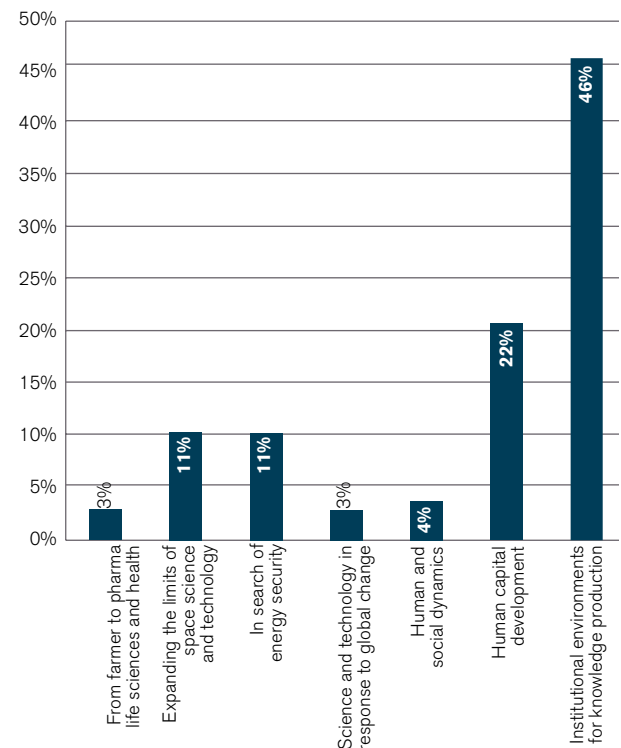
Support for the 10-Year Innovation Plan

The DST's 10-year Innovation Plan, entitled "Towards a Knowledge-based Economy", is based on the notion that a country's economic growth is driven by innovation, specifically technology innovation. This notion is supported by a recent publication¹ which indicates that jobs requiring high skill levels will grow, on average, 10% faster than jobs that can be simply learnt on the job. To address the social and economic challenges it faces, South Africa needs to advance its resource-based economy to a knowledge-based economy. This will require South Africa to generate new knowledge using high-end human capital supported by a sophisticated knowledge infrastructure.

Intellectual property

The protection and exploitation of intellectual capital are key elements of this strategy. The funding programmes directly managed by the NRF support the protection of knowledge through patenting. Table 1 (opposite) indicates the stage and number of protections that were registered during the 2008/09 period by researchers funded through RISA discretionary funds (excluding all contract funding programmes).

Figure 3: Alignment of NRF funding with the Grand Challenges (from Grant Budget)



1. US Department of Labor, Bureau of Labor Statistics. *Employment Outlook, 1996-2006: A Summary of BLS Projections, (February 1998), Table 9, p. 80*

Table 1: Patent development stages (RISA funded programmes, excluding all contract funding programmes)

Performance indicators	2008/09
Complete patent application (including PCT application)	11
Provisional patent application	55
Granted	14

Grand Challenges

The DST has identified five critical areas, called Grand Challenges, which offer the potential to steer the "developmental state" towards a knowledge-based economy. The NRF investment into these Grand Challenges is illustrated in Figure 3.

Key result area: Fulfilling the mandate of the NRF

Mandate of the NRF

According to Section 3 of the National Research Foundation Act, Act No. 23 of 1998, the object of the NRF is to promote and support research through funding, developing human resources and providing the necessary facilities. The main aim is to facilitate the creation of knowledge, innovation and development in all fields of science and technology, including indigenous knowledge, and thereby to contribute to improving the quality of life of all the people of the Republic.

The NRF response to the mandate

The mandate of the NRF, as provided by the NRF Act, has been interpreted and translated into the NRF Vision, Mission and Strategic Plan: NRF *Vision 2015*.

Vision

The NRF has a vision of ensuring research excellence in a transformed society and within a sustainable environment.

Mission statement

The mission of the NRF is to contribute to the knowledge economy in South Africa by attaining at least 1% of global R&D output by 2015.

The NRF Strategic Plan, *Vision 2015*

In the strategic plan, five strategic goals are identified:

- Promoting internationally competitive research as basis for a knowledge economy;
- Growing a representative science and technology workforce in South Africa;
- Providing cutting-edge research, technology and innovation platforms;
- Operating world-class evaluation and grant-making systems; and
- Contributing to a vibrant national innovation system.

The NRF mandate, resources and investments

The NRF receives income from Vote 31 of Parliament. This income is used at its own discretion to fulfill its mandate and vision. The NRF also receives contributions that are ring-fenced for specific purposes. Finally, the NRF manages a number of grant-funding programmes on behalf of a variety of government departments. These funding programmes are managed via contracts and in line with the mandate of the NRF.

Strategic investment areas

The NRF uses its discretionary budget to boost areas of investment (identified in the NRF Strategic Plan: *Vision 2015*) that are not adequately supported by contract funding. Figure 4 lists the seven broad strategic investment areas and indicates the split between contract and discretionary funding in each. The low level of funding invested in community engagement research does not indicate its lack of importance. On the contrary, by recognising community engagement research as a separate investment area for research funding the importance of understanding how best to engage the community is highlighted.

NRF investment into the strategic goals

Within the greater context of the national policies and imperatives described above, the NRF invests its discretionary budget along the lines of its five strategic goals (see Figure 5 overleaf).

Figure 4: Investment from discretionary funds in strategic investment areas

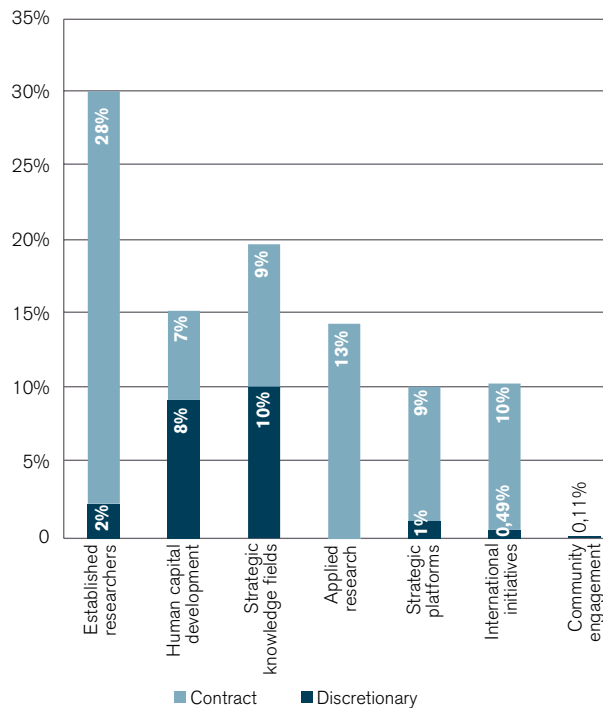
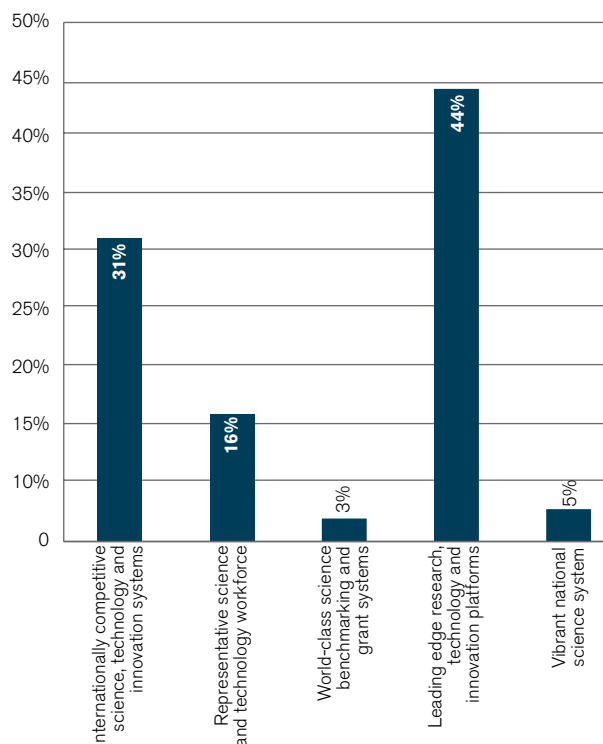


Figure 5: Investment into the five NRF strategic goals



Key result area: Performance against strategic goals

Strategic goal: Promoting internationally competitive research as basis for a knowledge economy

RISA-supported research outputs

The NRF is of the view that South African research should be internationally competitive. Even research with a local focus, for example South African law or Zulu literature, needs to be shared and benchmarked globally. One measure of the success in promoting internationally competitive research is the number of publications of research outputs. However, this indicator is prone to extreme volatility as fluctuations in outputs are dependant on the cycle of research work. For example, books are not published annually but more likely after a number of years of work. Although research reports and peer-reviewed journal articles are published more frequently, they also suffer from these fluctuations.

For information on publications, the NRF is relying on the robust databases provided by research publishers such as Thomson Reuters (International Science Information (ISI) Web of Knowledge) and Reed Elsevier (Scopus) for reporting. A list of ISI publications in 2008/09 with South Africans as one or more of the first seven authors contains 8 622 publications. More than a third of these, that is, 3 293 publications, were authored by NRF-sponsored researchers. As most publications are the work of more than one author, it is also fair to conclude that NRF-sponsored researchers collaborate widely within the system.

The research outputs listed in annual reports supplied by researchers supported through RISA discretionary funding indicated that the total number of peer-reviewed research articles published was 5 354 (see Table 2 for other outputs).

Table 2: Number of peer-reviewed publications supported through RISA discretionary funding

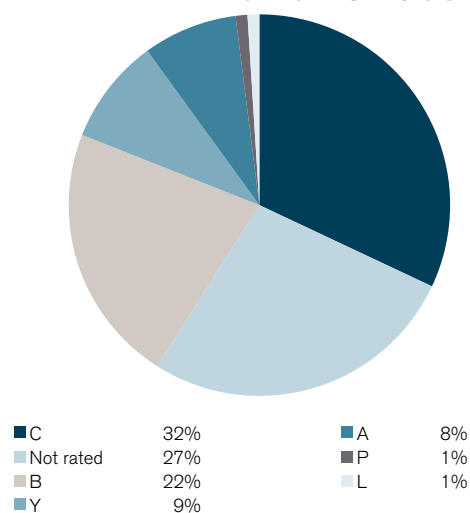
Performance indicators	Performance 2007/08	Target 2008/09	Performance 2008/09
Peer-reviewed articles	2 884	3 273	5 354
Books	60	313	146
Chapters in books	253	267	568
Refereed/peer-reviewed conference proceedings	281	309	1 405
Patents	19	18	14

As expected, of the 5 354 peer-reviewed articles, the research outputs from the Focus Area Programmes that are currently being phased out, have declined from 2 884 (2007/08) to 2 323 (2008/09).

The Focus Area Programmes are being replaced over four years by a number of new programmes; key among them is the Incentive Programme for NRF-rated researchers. The number of peer-reviewed articles that emanated from the newly established Incentive Programme amounted to 1 355. Researchers funded through the programme produced 58 books and 202 chapters in books.

The spread of research productivity of NRF-rated researchers is indicated below. Figure 6 shows the proportional contribution per NRF rating category² (A, B, C, P, Y and L) to the 3 293 ISI publications produced in 2008/09 by NRF-supported authors.

Figure 6: International research outputs by rating category (proportion)



The same data normalised for the number of people in each NRF rating category (that is, research output per capita) indicates that the most productive researchers are also the most highly rated researchers (Table 3).

Table 3: Research outputs per capita in 2008/09

Rating	A	P	B	Y	C	L
Output per capita	4.81	3.38	2.07	1.48	1.23	0.88

Research outputs from contract funding programmes

The research outputs from **the dti** flagship programme – the Technology and Human Resources for Industry Programme (THRIP) – are listed in Table 4.

Table 4: Research outputs by THRIP grantholders

Performance indicators	Performance 2007/08	Target 2008/09	Performance 2008/09
No. of publications	1 780	1 700	1 034
No. of patents	30	55	31
No. of products and artifacts	167	170	168

THRIP experienced a 4% drop in the number of supported projects (a result of cancellations) and a consequent drop in the expected number of publications. The global economic climate is a contributing factor in lower project numbers.

Research outputs from the National Research Facilities

The National Research Facilities also contribute to the internationalisation of research through their own outputs. Table 5 compares performance against previous years in a number of categories.

Table 5: Research outputs by the National Research Facilities

Performance indicators	Performance 2007/08	Target 2008/09	Performance 2008/09
Journal articles (ISI and other refereed)	264	175	180
Research reports	109	302	71
Full-length conference proceedings	121	184	94
Chapters in books	8	7	17
Books	4	3	1
Patents awarded	0	1	0

There was a decline in numbers across categories, with the exception of the number of chapters contributed to books. This can be attributed to the fluctuations in outputs dependant on the cycle of research work.

Support for scarce skills

A number of scarce skill sets have been identified and are supported through the National Skills Fund on behalf of the Department of Labour (see Table 6).

Table 6: Scarce skills supported by the NRF

Accounting	Biotechnology	Financial management	Physics
Actuarial science	Chemistry	Geology	Radio astronomy and related engineering
Agricultural science	Computer science	Information systems	Statistics
Astronomy	Demography	Mathematical sciences	Tourism
Auditing	Economic and management sciences	Microbiology	Transport studies
Bioinformatics	Engineering	Paleontology	

The competitive grants released during 2008/09 by the National Skills Fund to researchers in some scarce skills areas are indicated in Table 7.

Table 7: Grants released in areas of scarce skills

Scarce skill	Women	Men	Sub-total	Women	Men	Sub-total	Total
Accounting	-	-	-	-	1	1	1
Actuarial Science	-	-	-	-	1	1	1
Agricultural Sciences	13	8	21	10	9	19	40
Bioinformatics	1	-	1	-	-	-	1
Biotechnology	54	33	87	17	13	30	117
Chemistry	36	26	62	11	6	17	79
Computer Science	4	4	8	-	3	3	11
Demography	4	1	5	3	1	4	9
Economics	-	-	-	1	-	1	1
Engineering	7	17	24	5	23	28	52
Geology	2	2	4	1	5	6	10
Mathematical Science	4	6	10	6	9	15	25
Physics	4	12	16	5	11	16	32
Statistics	3	3	6	-	2	2	8
Other	8	16	24	6	11	17	41
TOTAL	140	128	268	65	95	160	428

International collaboration

The NRF promotes internationally competitive research by providing support specifically for international collaboration. Table 8 indicates the achievements made in this area supported through investment of NRF discretionary and contract funds in the form of agency-to-agency and country-to-country agreements.

Table 8: Performance indicators of agency-to-agency and country-to-country agreements

Performance indicators	Performance 2007/08	Performance 2008/09
% active	85%	87%
No. of projects funded	164	254
No. of SA research institutions involved	37	37
No. of joint workshops funded	No data	282
No. of SA researchers involved	1 195	988
% women	43%	15%
% black	25%	23%
No. scientists (SA and foreign) exchanged	135	482
No. students (SA and foreign) exchanged	29	343

Substantial international collaboration was also achieved through interactions of SAASTA and the National Research Facilities (see Table 9).

Table 9: International collaborations by SAASTA and the National Research Facilities

	SAASTA	SAAO	HARRAO	HMO	SAIAB	SAEON	NZG	IThemba LABS	Total 2008/09	Total 2007/08
Argentina									0	1
Australia	2		2	1	3	1		1	10	9
Austria			0	1			2	3	6	8
Belgium								4	4	7
Bermuda						1			1	0
Brazil						1		1	2	1
Bulgaria								1	1	1
Canada	1		5		1			2	9	5
Chile								1	1	1
China	1					1		1	3	3
Czech Rep.				1			1		2	1
Denmark						1		1	2	2
France	1		2		1	2	1	9	16	15
Germany			5	4		1		28	38	37
Hungary							1	4	5	4
IAEA								1	1	0
India	1			1		1		6	9	7
Israel					1			1	2	2
Italy				1	1			6	8	8
Japan				4			2	3	9	8
Netherlands			2			1		3	6	5
New Zealand					1				1	1
Norway					1			1	2	2
Oman								1	1	1
Poland								5	5	5
Portugal			2					1	3	3
Russia			1	2				2	5	6
Saudi Arabia			1						1	0
Singapore								1	1	1
Slovakia						1			1	1
Slovenia								3	3	3
South Korea								1	1	0
Spain	1					1	1		3	0
Sri Lanka	1								1	0
Sweden								3	3	3
Switzerland			1					3	4	4
Taiwan						1		2	3	2
Turkey								1	1	1
UK	1	5	2	2	2		6	8	26	30
Ukraine			1						1	1
USA	2	10	11	3	3	3	7	9	48	42
TOTAL	11	15	35	20	14	16	21	117	249	231

A special focus is placed on international interactions with other countries on the African continent as shown by Table 10.

Table 10: Interactions with Africa

Performance indicators	Performance 2007/08	Target 2008/09	Performance 2008/09
No. of projects funded	36	120	46
No. of SA research institutions involved	14	10	16
No. of SA researchers involved	40	150	81
No. of SA principal investigators	36	120	96
% women	33%	40%	10%
% black	17%	30%	20%
No. scientists (SA and foreign) exchanged	36	100	73
No. students (SA and foreign) exchanged	n/a	70	142

Strategic goal: Growing a representative science and technology workforce in South Africa

Science advancement through SAASTA

Growing the representative workforce begins with growing awareness of science and technology among children and their parents. This task falls upon SAASTA. The key activities undertaken include promoting and encouraging science education, providing science awareness platforms and communicating about science in all its forms to a wide range of audiences. Table 11 overleaf indicates the performance of SAASTA in this area of work.

It is of interest to note that participation in science festivals has increased dramatically since 2006/07. This increase can be attributed to the fact that new science festivals were introduced. A meaningful manner has to be found to collate the data on the number of tertiary students that are reached. The Campus Radio Campaign has continued into the 2009/10 financial year.

Science advancement through the National Research Facilities

The National Research Facilities use their facilities to advance science awareness to the general public. Table 12 indicates the performance of the facilities in this area of work.

The lower than anticipated visitor numbers to the National Research Facilities in general, and to the National Zoological Gardens in particular, may be explained by the current difficult economic situation in the country.

RISA student support

The science and technology workforce is strengthened by supporting and encouraging students at Higher Education Institutions. The PhD project, a major project that provides a one-stop shop for all the needs of prospective PhD students, is a key contributor to this effort. The 2008/09 PhD fair received 1 500 student applications, which is a 50% increase from the 2007/08 applications.

RISA also provides direct financial support from its discretionary grant budget for bursaries and scholarships. Furthermore, RISA manages a number of student funding programmers on behalf of other sponsors.

The NRF supported through its discretionary funding a total of 4 139 students, of which 53% are women and 55% are black (Table 13). A total amount of R139,1m has been expensed for this purpose (Figure 7).

Table 11: Science outreach activities carried out by SAASTA

Activities	Performance measures/Outputs	Performance 2007/08	Target 2008/09	Performance 2008/09
Interaction with learners	Number of learners reached	305 566	255 545	328 546
	Number of previously disadvantaged learners	No data, mostly disadvantaged learners	184 806	292 875
Interaction with educators	Number of educators reached	12 875	12 299	10 536
Interaction with public at large	Number of visitors to science awareness infrastructure	4 403	1 739	5 649
	Participation in science festivals/number of public reached	239 604	172 745	260 389
	Number of tertiary students reached	1 093	781	205

Table 12: Science outreach activities by National Research Facilities

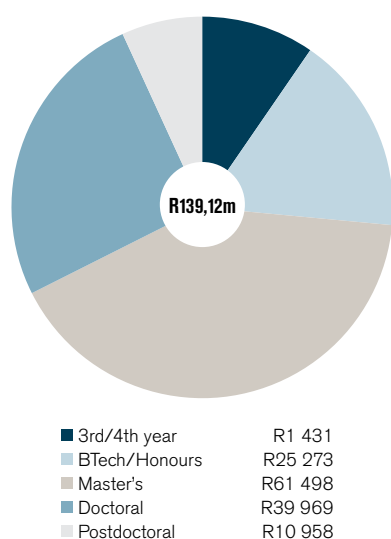
Activities	Performance measures/Outputs	Performance 2007/08	Target 2008/09	Performance 2008/09
Interaction with schools	Number of learners reached	45 900 learners reached	*5 983 schools to be reached	36 738 learners reached
	Number of previously disadvantaged learners reached	18 511 learners reached	*5 009 disadvantaged schools to be reached	29 394 learners reached
Interaction with educators	Number of educators reached	3 079	5 694	4 102
Interaction with public at large	Number of visitors to National Research Facilities	657 066	682 800	627 035

*Variance between the target and actual performance cannot be determined as the target referred to the number of institutions/schools and performance data were gathered in terms of the number of learners reached.

Table 13: Number of students supported by the NRF discretionary budget through grantholder-linked and freestanding bursaries (excludes external sponsors, such as DoL, SANAP and DST)

Study level	Black						White						Performance 2007/08	Target 2008/09	Performance 2008/09
	Women		Men		Total		Women		Men		Total				
	08/09	07/08	08/09	07/08	08/09	07/08	08/09	07/08	08/09	07/08	08/09	07/08			
3rd/4th year	79	74	74	63	153	137	12	15	13	6	25	21	158	487	178
BTech/Honours	329	126	225	106	554	232	130	27	104	15	234	42	274	715	788
Master's	528	489	513	441	1 041	930	552	547	446	477	998	1 024	1 954	2 329	2 039
Doctoral	201	227	278	319	479	546	303	336	210	216	513	552	1 098	1 293	992
Postdoctoral	15	19	45	68	60	87	43	47	39	57	82	104	191	238	142
TOTAL	1 152	935	1 135	997	2 287	1 932	1 040	972	812	771	1 852	1 743	3 675	5 062	4 139

Figure 7: Amount expended per level of study through RISA discretionary funding (R'000)



The South African Research Chairs Initiative supported a total of 380 students, of which 140 were Master's students, 100 doctoral students and 46 postdoctoral fellows. Of the total number of students, 43% are women and 58% are black.

The seven Centres of Excellence supported a total of 395 students, of which 182 were Master's students, 130 doctoral students and 38 were postdoctoral fellows. Of the total number of students, 45% are women and 52% are black.

The DST African Scholarships Programme supported 103 students, 63 at Master's level and 40 at doctoral level. Of the total number of students, all are black and 37% are women.

The National Skills Fund sponsored by the Department of Labour supported 186 Master's and 234 doctoral students. Of the total of 420 students, 266 are black, 203 are women and 51 are people with disabilities.

THRIP is a partnership programme between HEIs, SETIs and industry and is based on a joint funding principle where each partner contributes according to a funding formula. THRIP experienced a 4% drop in the number of supported projects as a result of cancellations by industry partners and a consequent drop of student numbers. The global economic climate is a contributing factor in lower project and student numbers.

Table 14: Number of students supported by the dti through THRIP

Study level	Performance 2007/08	Target 2008/09	Performance 2008/09
3rd/4th year	180	428	253
BTech/Honours	366	558	260
Master's	938	1 498	874
Doctoral	540	736	528
Postdoctoral	30	149	33
TOTAL	2 054	3 369	1 948

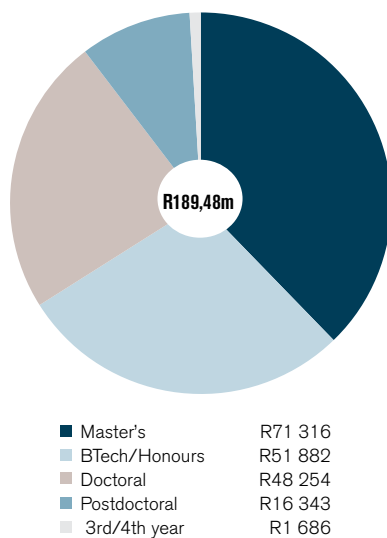
Table 15: Race and gender of students supported through NRF managed and funded programmes combined

Study level	Black			White			Other*	Grand Total
	Women	Men	Total	Women	Men	Total		
	2008/09	2008/09	2008/09	2008/09	2008/09	2008/09		
3rd/4th year	139	171	310	65	37	102		412
BTech/Honours	437	390	827	185	171	356	25	1 208
Master's	792	1 036	1 828	798	803	1 601	11	3 440
Doctoral	381	666	1 047	511	473	984		2 031
Postdoctoral	30	79	109	84	67	151		260
TOTAL	1 779	2 342	4 121	1 643	1 551	3 194	36	7 351

* Race and gender not indicated

It is worth considering the total number of students supported by the NRF discretionary funding and by programmes managed on contract by the NRF, all of which contribute towards growing a representative science and technology workforce (Table 15). During 2008/09 a total number of 7 351 students were supported to a total amount of R189,5m (Figure 8).

Figure 8: Amounts expended on bursaries and scholarships through RISA discretionary and contract funding combined (R'000)



Student support through the National Research Facilities

The National Research Facilities play an important role in the growth of a representative science and technology workforce by providing support to undergraduate and postgraduate students (Tables 16 and 17).

RISA support for researchers

The science and technology workforce is strengthened by awarding grants to researchers. During 2008/09 RISA released R321 m from its discretionary budget to 2 650 grantholders/researchers, of which 26% are black and 38% are women (Figure 9).

Figure 9: Race and gender distribution of grantholders supported through RISA discretionary funding (excluding contracts)

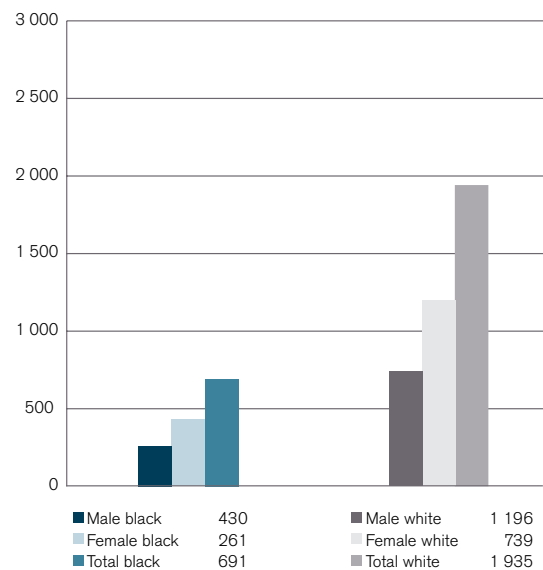


Table 16: Students supported by National Research Facilities

Supporting objectives	Performance measures/outputs	Performance 2007/08	Target 2008/09	Performance 2008/09
Provide support to postgraduate students	No. of students involved in postgraduate training	570	351	411
	No. of Master's and PhD students supervised	203	261	217

Table 17: National Research Facility stimulation of undergraduate and Honours students' interest in postgraduate studies

Activities	Outputs/Performance measure	Black			White			Total 2008/09	Total 2007/08
		Men	Women	Total	Men	Women	Total		
Provide experiential training: students to spend time at and participate in the work of the Facilities as part of their formal training	Number of students involved	264	236	500	328	221	549	1 049	315
Provide short-term formal teaching	Number of research staff involved	10	4	14	42	14	56	70	70
Provide vocational holiday employment	Number of students employed	25	11	36	11	-	11	47	59
Run summer schools/practicals/vacation schools	Number of students involved	99	34	133	14	41	55	188	251

Figures 10 and 11 give an overview of the race and gender distribution of the total number of grantholders (3 570) supported by RISA through the discretionary, ring-fenced and contract funds combined.

Figure 10: Race distribution of RISA grantholders

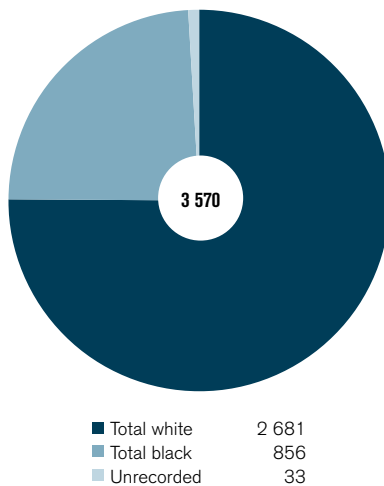


Figure 11: Gender distribution of RISA grantholders

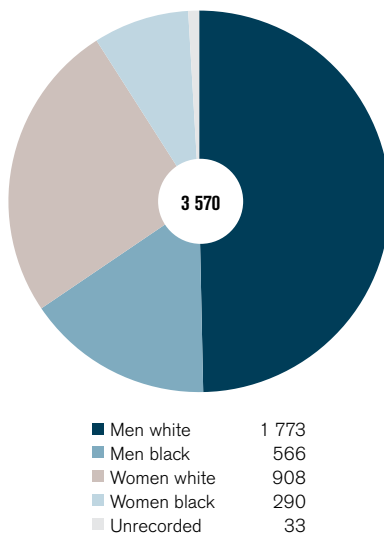
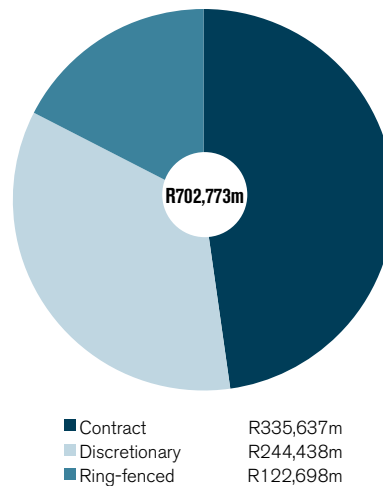


Figure 12 shows how the respective RISA funding streams contributed to the total amount of R703m invested in grantholder/researcher support.

Figure 12: Sources of funding for RISA grants to grantholders



National Research Facility staff capacity building

Table 18 gives an indication of the contribution of the National Research Facilities towards growing staff capacity.

Table 18: R&D staff capacity building by National Research Facilities

Supporting objectives	Performance measures/Outputs	Performance 2007/08	Target 2008/09	Performance 2008/09
Staff development initiatives	Proportion of staff with higher degrees	M: 23%	M: +5%	M: 29%
		PhD: 61%	PhD: +10%	PhD: 59%
	Proportion of Facility staff complying with the requirements for obtaining a degree, and level of qualifications	M: 0.6%	M: +2%	M: 1,1%
		PhD: 3,3%	PhD: +2%	PhD: 1,1%

Strategic Goal: Providing cutting-edge research, technology and innovation platforms

National Research Facilities

The following research infrastructure is made available nationally through the National Research Facilities:

South African Astronomical Observatory (SAAO)

SAAO is South Africa's optical/infrared astronomy facility for fundamental research in astronomy and astrophysics. The Southern African Large Telescope (SALT), through the development of the superior spherical aberration corrector and a variety of other innovations, is more capable than its prototype, the Hobby-Eberly Telescope. SAAO was also commissioned to build Saltcam, the verification and acquisition camera for SALT. The Sutherland site is host to a geodynamic observatory, a facility established by way of an agreement between the GFZ in Germany and the NRF.

Hermanus Magnetic Observatory (HMO)

HMO is part of the worldwide network of magnetic observatories and is a Space Weather Regional Warning Centre for Africa under the International Space Environment Service (ISES). Its core functions are to measure, research and distribute data of the variations of the Earth system from the core to space, including the Earth's magnetic field, atmosphere, ionosphere, plasmasphere and magnetosphere. In addition, the HMO offers technological services as well as science outreach and advancement.

Hartebeesthoek Radio Astronomy Observatory (HartRAO)

HartRAO provides radio telescopes for radio astronomy and space geodesy. A Moblas6 Satellite Laser Ranging (SLR) system is used as part of an international SLR network. A new MARK V VLBI disk-based data recording system is used for most international experiments, providing improved quality and reliability.

South African Institute for Aquatic Biodiversity (SAIAB)

SAIAB serves as a research hub for aquatic biodiversity in southern Africa by housing and developing the National Fish Collection and associated research tools and sources of aquatic biodiversity data. This data is used for generating, disseminating and applying knowledge in the field of aquatic biodiversity. A new off-site collection facility was inaugurated during 2006/07. SAIAB established a new genetics laboratory to conduct research on

aquatic biodiversity and conservation genetics of threatened taxa.

South African Environmental Observation Network (SAEON)

SAEON is a provider of basic laboratory equipment and ecological research opportunities at the site/node level. Nodes provide coordinating and service staff, and are linked to each other through an IT network. SAEON has entered into a joint project with the CSIR to develop an electronic platform for spatial data that allows for the inter-operability of distributed data holdings.

There are six SAEON nodes, but only four nodes are currently operational. The four fully operational nodes are the Ndlovu Node (Savanna Biome) in Phalaborwa, the Elwandle Node (Coastal-Inshore Systems) in Grahamstown, the Egagasini Node (Marine-Offshore Systems) in Cape Town, and the Fynbos Node (Fynbos Biome) also in Cape Town. Two further nodes are being established: an Arid Lands Node (Nama Karoo and Succulent Karoo Biomes) in Kimberley, and a Grasslands-Forests-Wetlands Node (Grassland and Forest Biomes and Wetlands Systems) in Pietermaritzburg.

National Zoological Gardens of South Africa (NZG)

The NZG is a National Research Facility for research in wildlife biodiversity. It houses one of the largest animal collections in the world, operates three biodiversity conservation centres and has 7 103 hectares available at different locations for its respective activities.

iThemba Laboratories for Accelerator Based Sciences (iThemba LABS)

The facilities at iThemba LABS are used for applied and pure sub-atomic sciences and associated technologies to produce radioisotopes and provide radiation therapy facilities. Equipment includes the Van de Graaff accelerator and the Separated Sector Cyclotron.

During 2008/09 the investment into acquiring and renewing equipment infrastructure at the National Research Facilities amounted to R37m as shown in Table 19.

Table 19: Infrastructure platform provided by National Research Facilities

Supporting objectives	Performance measures/Outputs	Performance 2007/08	Target 2008/09	Performance 2008/09
Acquiring and renewing equipment and infrastructure (excluding SKA)	Investing in research platforms at National Research Facilities	R39m	R30m	R37m

Of this, R17m in supporting the DST Science Missions, namely the Centre for High Performance Computing (CHPC), the DST–Joint Institute of Nuclear Research (JINR), oceanographic research and the hydrogen humidifier reactor.

Table 20 indicates the total amount invested by RISa in state-of-the-art-platforms at the National Research Facilities during 2008/09.

Table 20: Infrastructure platform provided by RISa at National Research Facilities

Supporting objective	Performance measures/Outputs	Performance 2007/08	Target 2008/09	Performance 2008/09
Establishing state-of-the-art research platforms	NRF investment in platforms	R65m	R161.7m	R104,7m

The variance between the target (R161,7m) and actual expenditure (R104,7m) is a consequence of the nature of the programme. The grants for state-of-the-art capital were made during the 2008/09 financial year, and R57m is being carried over for equipment that is being commissioned.

Research information infrastructure

As a national resource, the NRF takes responsibility for obtaining and sharing data that is of importance within the NSI. The NRF maintains various databases that are published on the Internet at

<http://www.nrf.ac.za/nexus>. Access to all these databases is free of charge, but only the Current and Completed Research Project database requires a password that is facilitated via the Web interface.

The data and information provided by RISa to the research community are intended to:

- promote and facilitate the production of knowledge (through the South African Information Network – SABINET – online; the Current and Completed Research Database within the Nexus Database; and the South African Data Archives – SADA); and
- support collaboration between researchers through the South African Network of Skills Abroad (SANSA).

The total number of accesses to the databases for 2008/09 was 183 256 in comparison with the 164 235 for 2007/08. There is an increase in the usage of the Nexus Database System (Figure 13).

Figure 14 provides a comparison for the years 2006 (total 501), 2007 (total 686) and 2008 (total 531) for the requests received for the datasets of SADA.

There was a decrease in the requests for datasets between 2007/08 and 2008/09. This decline can be ascribed to the decline in the postgraduate intake at HEIs, resulting in fewer requests for data on completed research.

Equipment funding programmes

RISa manages a number of equipment funding programmes that support the purchase of cutting edge research equipment. These programmes can be grouped into Nanoscience related equipment and other equipment. Tables 21 and 22 indicate the number of grants released in 2008/09 and the amounts spent against these grants.

Table 21: Number of equipment-related grants provided

Programme	Black			White			Total 2008/09
	Women	Men	Sub-total	Women	Men	Sub-total	
General equipment	1	8	9	9	27	36	45
Nanoscience equipment	0	3	3	0	3	3	6
TOTAL	1	11	12	9	30	39	51

Table 22: Amount spent against active equipment grants in 2008/09 (R'000)

Programme	Black			White			Total 2008/09
	Women	Men	Sub-total	Women	Men	Sub-total	
General equipment	2 000	21 302	23 302	10 817	44 609	55 426	78 728
Nanoscience equipment	–	4 420	4 420	–	9 193	9 193	13 613
TOTAL	2 000	25 722	27 722	10 817	53 802	64 619	92 341

Figure 13: Access to the Nexus Database system (2006/07-2008/09)

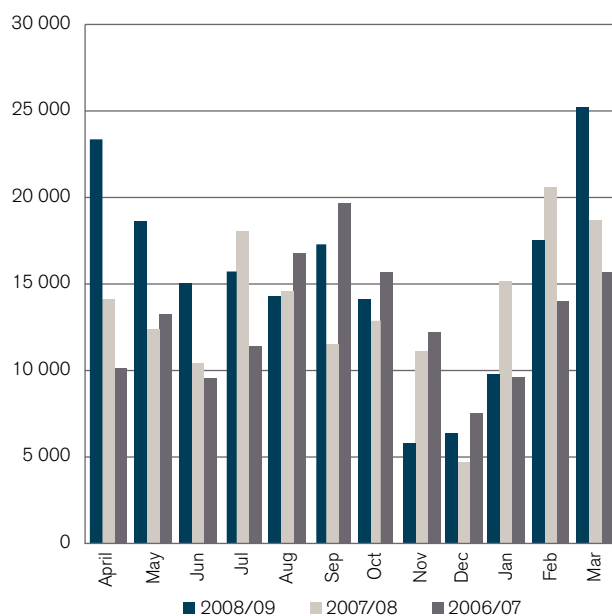
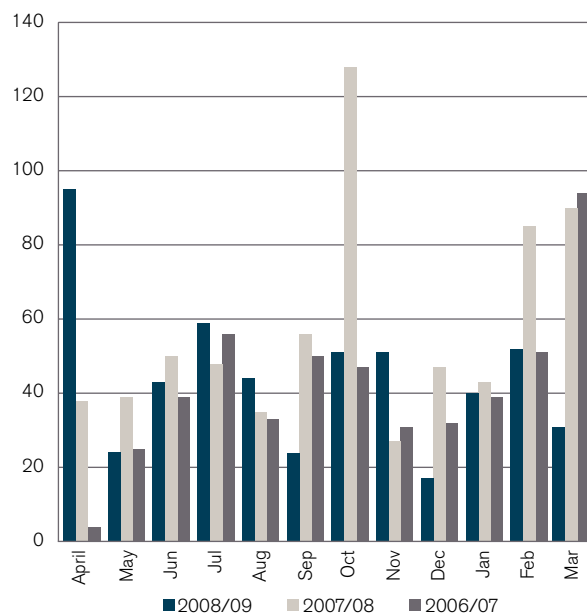


Figure 14: Requests for the datasets of the South African Data Archives (2006/07-2008/09)



Strategic goal: Operating world-class evaluation and grant-making systems

An important component of many of the activities within the NRF, especially RISA, but also to a degree the National Research Facilities, is the need to operate effective and efficient evaluation and grant-making processes.

Evaluation system

The evaluation and rating of individual researchers' outputs remains a key activity. This system was exposed to a rigorous review in 2008/09 that was co-convened by Higher Education South Africa (HESA) and the NRF. The findings of the review (http://evaluation.nrf.ac.za/Content/Documents/rsc_findings_recom.pdf) essentially included the following points:

- The rating system should be retained and its focus on research excellence sharpened;
- The NRF should take full responsibility for disseminating accurate information about how the NRF rating system works;
- Funding should be directly linked to rating;
- The NRF, in consultation with its stakeholders, should address the criticisms regarding various aspects of the rating system, such as rating categories, simplification of processes, transparency, feedback, and so forth;
- The NRF and HESA should lobby for sufficient levels of funding to sustain the rating system; and
- The DST, DoE, HESA, NRF, and the likes, should interact to align the recognition and reward of research outputs.

In line with the above recommendations, the NRF has retained and sought to strengthen the rating system. The system is well-used by the academic community as shown by the data in Table 23, which indicates that 556 applications were processed during the reporting period.

Table 23: Number of applications for evaluation and rating in all disciplines during 2008/09

Type of evaluation	A	B	C	P	Y	L	RU*	Total 2008/09	Total 2007/08
New	1	19	99	2	72	11	38	242	207
Re-evaluation by invitation	14	76	134	0	0	1	7	232	332
Re-evaluation	2	8	31	0	0	0	6	47	23
Special re-evaluation		5	5	0	0	0	0	10	1
Total completed	17	108	269	2	72	12	51	531	563
Unfinalised (EEC referrals etc)								4	0
Withdrawals								21	58
TOTAL RECEIVED								556	621

* RU = no rating

The NRF evaluation and rating of individual researchers' outputs is designed to encourage quality improvement through continual (every five to six years) benchmarking of research outputs against international standards. Table 24 shows that the number of rated researchers increased by 16%. The increase was across all rating categories with the largest increase in the Y category, which is encouraging.

Table 24: Number of rated researchers in all disciplines as at 30 April 2009

Rating	2008/09	2007/08	% change
A	77	68	13
B	443	378	17
C	1 070	936	14
P	16	14	14
Y	256	199	29
L	60	58	3
TOTAL	1 922	1 653	16

Table 25 indicates the distribution of researchers from the various rating categories across types of institutions. The growth within the museums is particularly interesting.

Table 25: Number of rated researchers per institution type in all disciplines as at 6 March 2009

	A	B	C	P	Y	L	Total		% change
							2008/09	2007/08	
Universities/ Universities of Technology	75	415	1 011	16	235	56	1 808	1 635	11%
Museums	0	7	13	0	3	0	23	18	28%
Science Councils	0	13	36	0	14	4	67	0	-
NRF Facilities	2	8	10	0	4	0	24	23	4%
TOTAL	77	443	1 070	16	256	60	1 922	1 676	15%

The demographic breakdown of rated researchers also shows small but encouraging growth among designated groups (Table 26).

Table 26: Change in demographics of rated researchers

	2008/09		2007/08	
	No.	% of Total	No.	% of Total
Black	316	16%	245	15
Women	499	26%	405	25

Grant-making system

Grant making needs to be efficient and effective for the NRF to realise its many objectives. The average turnaround time for grant applications to be processed was 75 days or 3,25 applications per day, which is up from the 2,59 applications per day in 2007/08. The productivity of the grant-making system was measured to be R1 794 per application.

Table 27 overleaf provides a summary of the NRF grant-making performance.

Strategic Goal: Contributing to a vibrant national innovation system

This strategic goal is by definition a cross-cutting goal and so the entire indicator report has reference to this goal.

Key result area: Quality of decision-making

All business units of the NRF make use of external expertise from academia, industry and government to guide internal policy and decision-making.

- Several Advisory Panels or Boards provided scientific guidance to National Research Facilities and funding programmes.
- The input of external peer reviewers formed the backbone of the decision-making processes in RISA and the National Research Facilities.
- Sound and auditable business procedures and processes, in line with international best practice, have been adopted to ensure the implementation of these decisions. For example, assessors attended panel meetings to ensure consistency when applying evaluation and decision-making tools across research fields.
- The impact of internal policies, especially funding decisions, are monitored through the performance information, and amendments are made should trends be detected that may not be to the benefit of the NSI.

For their decision-making processes, SAASTA used external expertise as follows:

- Panel members on funding proposals for all open calls issued, especially on national programmes such as Public Understanding of Biotechnology (PUB), National Science Week and Science Platform Months;
- Examiners and moderators for the National Science Olympiad; and
- Content advisors for specific science and education publications.

Key Result Area: Compliance to standards

The National Research Facilities' adherence to quality is apparent from the following listed examples:

Hartebeesthoek Radio Astronomy Observatory (HartRAO)

is validated internationally by, for example, the

- Geodetic Very Long Baseline Interferometry (VLBI) data is validated by the International VLBI Service;
- GPS (Global Positioning System) data is transmitted to the International GPS Service; and
- Satellite Laser Ranging is benchmarked against the International Laser Ranging System.

Hermanus Magnetic Observatory (HMO)

- is an INTERMAGNET (INTERNational MAGnetic observatory NETwork) accredited observatory;
- has obtained Armscor registration; and
- has received South African Civil Aviation Authority (SACAA) recognition for adherence to specified standards and practices.

iThemba Laboratory for Accelerated Based Sciences

- subscribes to the international standards for Radiation Protection, which are adopted by the National Nuclear Regulator; and
- has embarked on International Standardisation Organisation (ISO) certification through its Total Quality Management Programme.

The South African Institute for Aquatic Biodiversity (SAIAB)

- complies with the standards of the Water Research Commission; and
- has built its wet-collection facility to the highest international standards after a rigorous process of benchmarking the design against various recently constructed wet-collection facilities in Western Europe and North America. The design was approved for volatile liquid storage according to South African Bureau of Standards (SABS) standards.

The South African Environmental Observation Network (SAEON)

- is developing its information management system to be South African Spatial Metadata Standard (SANS 1878) compliant.

Table 27: Grant-making performance

KPA		KPI	Target	Performance 2008/09
Grant management (Internal)	Grant budget	Expenditure (Claimed)	≥ 96% of awarded	97%
	Operational budget	Expenditure	Achieve all planned activities; No over-expenditure; Save ≥ 1%	1% underspent
	Pre-award	Number of appeals	≤ 5% of applications	1%
	Pre- and post-award	Number of audit findings	Critical = 0 Significant = 3 Less Significant = 10 Minor = 3 Total = 16	0 0 9 1 10
Efficiency		Turnaround time	≤ 100 days	75
			≥ 3 applications/day	3,25
Customer relations (External)		Satisfaction index	-	80%
Productivity	People	Number of applications/number of people	≥ 165 applications/person	168
	Financial	Operating cost/number of applications	≤ R1 568/application	R1 794
Quality		ISO 9000 Accreditation authority	Achieve accreditation	No progress
Programme descriptions	Strategy (optional)	SharePoint	≥ 80% of programmes defined fully	95%
	Guide			
	Business description			

Financial Perspective

Key result area: Income

The NRF received an overall 4% increase in core funding from the DST that is largely attributed to an inflationary adjustment plus the doubling of SAEON income to enable the roll-out of additional nodes. In addition to the core funds allocated to the NRF from the DST, the NRF received contract and other income of R1 033 million (2008: R818 million). This increase is mainly related to additional contract funds received from the DST for the following programmes: Research Equipment Programme, Research Chairs and STAF.

Key result area: Expenditure

Within RISA, the increase in programme expenditure is mainly attributed to an increase in grant expenditure relative to additional income contract received. The increase in the National Research Facilities' expenditure is relative to additional contract income received for research projects while the escalation in SKA is due to the ramp-up of the KAT-7 project (see Table 28).

Key result area: Efficiency indicators

Some of the standard efficiency indicators for organisational performance are set out in Figures 15 to 17.

Operating expenditure ratio remained stable (see Figure 15) despite various new initiatives and programmes as mentioned under Income above.

From the information in Figure 16, it is evident that the NRF's remuneration expenditure in relation to total expenditure decreased, thus reflecting the overall staff efficiency (see Figure 16).

Figure 15: Ratio of operating expenditure to total expenditure

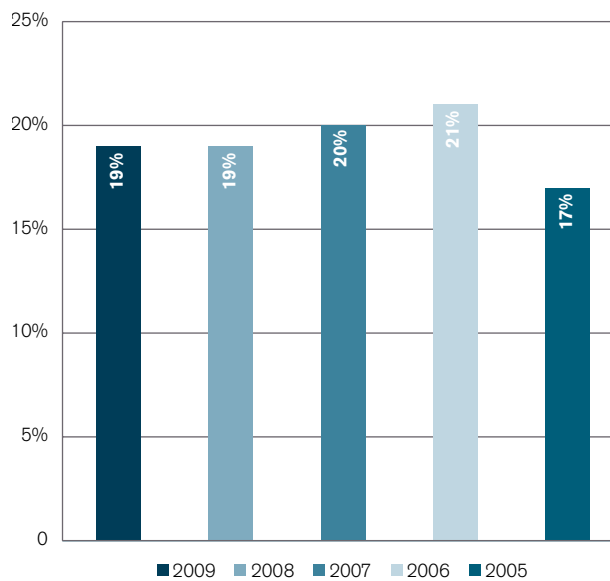


Figure 16: Ratio of remuneration expenditure to total expenditure

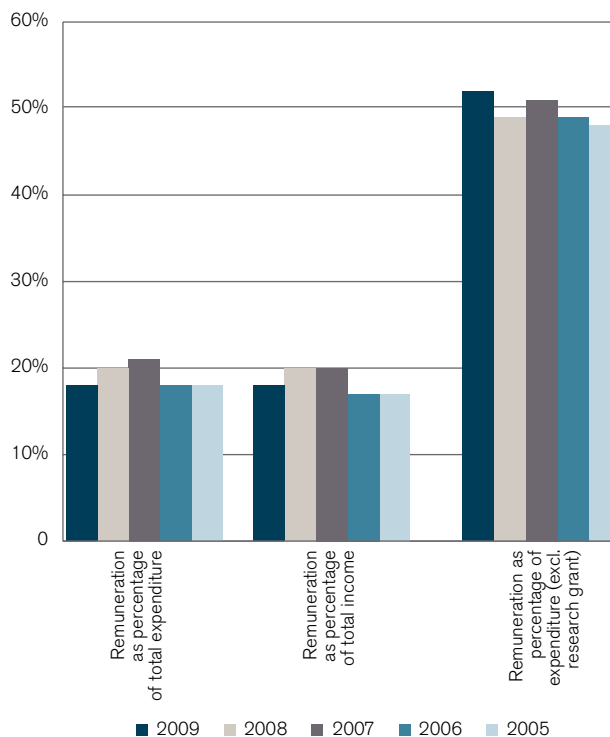


Table 28: National Research Foundation Five-Year Financial Review as at 31 March 2009

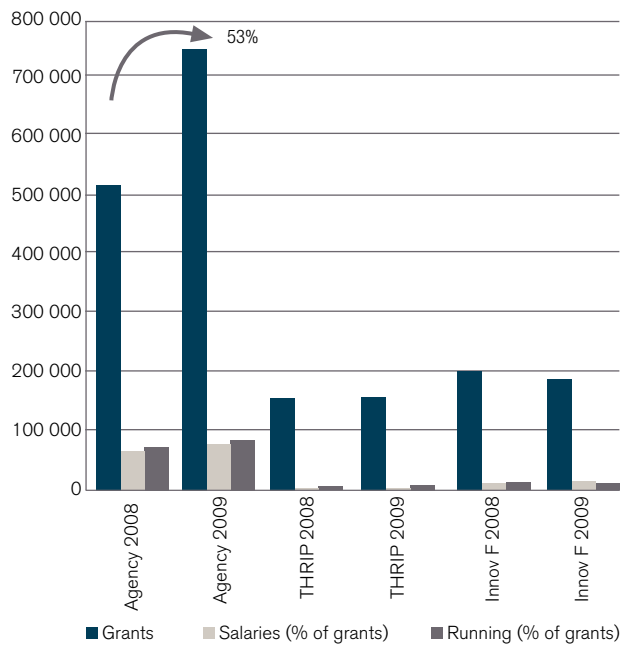
Financial indicators	2009 R'000	2008 R'000	2007 R'000	2006 R'000	2005 R'000
Income and expense					
Government grant (core parliamentary grant)	715 388	685 999	615 471	552 151	452 255
Contributions (contract funds)	872 445	715 658	486 798	407 934	450 651
Other income	163 597	102 806	77 416	57 186	50 049
TOTAL INCOME (before deferred income)	1 751 430	1 504 463	1 179 685	1 017 271	952 955
Grants and bursaries	1 062 842	881 259	671 577	608 776	591 024
Operating expenditure	328 307	271 337	225 447	216 976	153 765
Salaries (remuneration)	303 824	257 783	231 935	205 027	168 572
TOTAL EXPENDITURE	1 694 973	1 410 379	1 128 959	1 030 779	913 361
Balance sheet					
Current assets	1 172 120	924 251	616 797	463 109	1 151 925
Current liabilities	994 780	784 059	546 949	280 173	1 131 332
TOTAL ASSETS	1 579 682	1 268 628	915 998	714 316	1 381 328
Cash flow					
Net cash flow from (used in) operating activities	458 342	250 286	244 317	(60 316)	8 361
Net cash flow used in investing activities	(182 587)	(135 670)	(76 108)	(55 302)	(38 879)
Net cash flow from financing activities	(486)	(130)	2 636	717	-
Cash and cash equivalents at beginning of year	596 837	482 351	311 506	426 407	456 925
Cash and cash equivalents at end of year	872 106	596 837	482 351	311 506	426 407
Ratio analysis					
Core parliamentary grant to total income	41%	46%	52%	54%	48%
Contract income to total income	50%	48%	41%	40%	47%
Other income (incl. interest and trading income) to total income	9%	7%	7%	6%	5%
Total revenue per employee	1 451	1 289	1 034	925	932
Net cash generated from operating activities per employee	379,74	214,47	214,13	(54,83)	8,18
Remuneration as percentage of total expenditure	18%	18%	21%	20%	18%
Remuneration as percentage of total income	17%	17%	20%	20%	18%
Remuneration as percentage of expenditure (excl. research grant)	48%	49%	51%	49%	52%
Operating expenditure as percentage of total expenditure	19%	19%	20%	21%	17%
Research grant expenditure as percentage of total income	61%	59%	57%	60%	62%
Research grant expenditure as percentage total expenditure	63%	62%	59%	59%	65%
Current ratio (current assets divided by current liabilities)	1,18	1,18	1,13	1,65	1,02
Number of employees	1 207	1 167	1 141	1 100	1 022

* The above figures include the Innovation Fund and THRIP, while the AFS excludes these two programmes as control thereof vests with the DST and the dti respectively.

Grant Expenditure

Within RISA the economies of scale resulted in a significant increase in grant expenditure of 53% in 2009 as compared to 2008 with a corresponding 2% increase in salaries expenditure and a 3% increase in running expenditure (see Figure 17).

Figure 17: RISA expenditure (R'000)



Organisational Perspective

Key result area: Best practice – business processes and procedures

- The NRF managed the review of the evaluation and rating system of individuals, and the review of the Focus Area framework. These reviews were in response to two of several recommendations emanating from the 2005 NRF Institutional Review. It was recommended that the evaluation and rating system be reviewed by the [higher education] stakeholder community; and that the Focus Areas as a framework for funding research and development support be assessed. The review of the rating system was co-convened by Higher Education South Africa (HESA) and the NRF. Reports of studies and recommendations of both reviews are available on the NRF website: <http://evaluation.nrf.ac.za/Content/Documents>. Outcomes and recommendations of these two reviews served as key inputs when developing the NRF *Vision 2015* strategy and informed the new funding framework.
- The NRF's annual financial statements are compiled and audited in line with practice and standards issued by SAICA and comply with GAAP and IFRS requirements.
- The NRF does regular risk assessments as part of organisational best practice.
- SAASTA adheres to the norms and standards established for the Science Centre Network. Developments in this area are guided by the DST policy documentation with regard to acceptable norms and standards for educator support, Olympiads, competitions and science centres. New standards will be developed for science festivals.
- The outstanding quality of event management for the launch of the SAEON Egagasini Node in conjunction with the Ministerial Summit of the Group on Earth Observation (GEO) received a bronze PRISM Award from the Public Relations Institute of South Africa (PRISA). The launch included practical demonstrations of oceanographic research on board the *Ellen Khuzwayo* research vessel and coincided with the publication of an issue of the South African *Journal of Science* under the theme "SAEON's

experience so far". Delegates received copies for free and the event culminated with an official launch of the node by the Minister of Science and Technology.

- The National Research Facilities have to operate according to the Environment Health and Safety Management System, and have to satisfy National Occupational Safety Association (NOSA) standards.
- Configuration management is used where it is a requirement of clients such as The South African Civil Aviation Authority (SACAA), Armscor and Denel.
- Grant Management and Systems Administration (GMSA) implements grant management on behalf of all the granting directorates of RISAs. The function maintains high standards and is working toward the ISO certification of processes.
- Research projects and strategies are subject to a peer review process by Programme Advisory Committees that is in line with international best practice.

Key result area: Customer service

The NRF is committed to providing excellent service to its stakeholders in all its activities especially through efficient grant management and support systems.

- GMSA continued to improve the quality of RISAs services to all its stakeholders, clients and customers. It achieved a 96,5% claim rate and exceeded the target of 95%. In terms of the findings of the NRF review, GMSA has improved its turnaround time and channels of communication.
- The Human and Institutional Capacity Development (HICD) directorate held a Postgraduate Research Indaba in partnership with the University of South Africa (UNISA) to design strategies aimed at improving student development and throughput.
- Knowledge Fields Development (KFD) involved the research communities of different science domains (or fields) in joint workshops and planning sessions, agreeing on common purposes and working together proactively on all key issues of mutual interest.
- Programmes such as THRIP and the Innovation Fund operate more in applied areas, and thus had an additional responsibility

for stakeholder interactions by involving the users of research in planning and defining respective responsibilities.

- The five-year research plans of the National Research Facilities are subject to extensive stakeholder participation.
- The New Business Development unit coordinates stakeholder relations and has to ensure at a corporate level that the letter and spirit of the strategy are implemented throughout all stakeholder interactions. This directorate is responsible for corporate communication, international relations, coordinating governmental and industry relations, as well as fund-raising.
- The information management system that SAEON is developing will be a shared platform for data exchange and map production and will promote open access to state-funded research data. The DST has earmarked this system to serve the South African Earth Observation Strategy (SAEOS). SAEON acquires hard copies of important historical data and makes this available to stakeholders in digital format.
- The NZG has established a customer/visitor feedback questionnaire system that is monitored and analysed on a continuous basis.

Organisational Learning and Growth Perspective

Key result area: Suitably qualified staff

Competitiveness of an organisation is largely determined by the availability of suitably qualified staff. The number of staff with PhD and Master's degrees, and those who have enrolled for PhD and Master's degrees as at March 2009, are shown in Table 29 (below).

Key result area: Proportion of researchers to total number of staff

Table 30 provides an analysis of, and records a year-on-year change in the proportion of staff members who are researchers by NRF business unit/national research facility.

Table 30: Proportion of researchers to total staff

		Number of Researchers	Total staff	% Researchers to Total staff
RISA	2007/08	0	199	0%
	2008/09	0	233	0%
SAASTA	2007/08	0	34	0%
	2008/09	0	35	0%
SAAD	2007/08	20	101	20%
	2008/09	20	114	18%
HartRAO	2007/08	10	48	21%
	2008/09	6	50	12%
HMO	2007/08	10	34	30%
	2008/09	10	34	30%
SAIAB	2007/08	8	55	15%
	2008/09	7	59	12%
SAEON	2007/08	0	7	0%
	2008/09	0	7	0%
iThemba LABS	2007/08	49	300	16%
	2008/09	49	292	17%
NZG	2007/08	0	349	0%
	2008/09	6	329	2%
SKA	2007/08	0	41	0%
	2008/09	0	54	0%
National Research Facilities Total	2007/08	97	934	10%
	2008/09	92	938	10%
OVERALL	2007/08	97	1 167	8,31%
TOTAL	2008/09	98	1 207	8,12%

Table 29: NRF staff with postgraduate qualifications (against total NRF staff)

Facilities	PhD		%		Enrolled PhD		%		Master's		%		Enrolled Master's		%	
2006/07	92	1 141	8,06%	17	1 141	1,49%	38	1 141	3,33%	12	1 141	1,05%				
2007/08	92	1 167	7,88%	12	1 167	1,03%	35	1 167	3,00%	12	1 167	1,03%				
2008/09	102	1 207	8,45%	11	1 207	0,91%	50	1 207	4,14%	9	1 207	0,75%				

RISA and SAASTA	PhD		%		Enrolled PhD		%		Master's		%		Enrolled Master's		%	
2006/07	17	1 141	1,49%	7	1 141	0,61%	37	1 141	3,24%	6	1 141	0,53%				
2007/08	17	1 167	1,46%	7	1 167	0,60%	44	1 167	3,77%	18	1 167	1,54%				
2008/09	23	1 207	1,91%	4	1 207	0,33%	59	1 207	4,89%	18	1 207	1,49%				

It should be noted that in terms of official job definition, RISA, SAASTA and SAEON have no formal research staff. This is in contrast with the National Research Facilities where staff members are specifically appointed as researchers.

Table 31: Staff with disabilities

2005/06	2006/07	2007/08	Target 2008/09	2008/09
6	7	12	18	15

Human Resources and Transformation Perspective

In line with the national agenda, transformation – in particular changing the demographic profile of the organisation – is one of the foci of the NRF. The figures that follow give an indication of projected organisational demographics.

Progress towards achieving the long-term employment equity targets continues at a steady rate. The overall representation of

designated groups stands at 79,7%, which is well ahead of our target. Female representation increased from 37,7% year-on-year to 39,1%, which is marginally short of the target (40%). Key challenges remain gender representation at executive and senior management levels and that of people with disabilities.

Table 32: The equity and redress profile per NRF business unit (race and gender) 2007/08 vs 2008/09

Business unit		Designated									Total designated	Non-Designated			Total Non-designated	Grand Total
		Men				Women						White Men	Foreign Nationals			
		Afr	Clrd	Ind	Total	Afr	Clrd	Ind	White	Total			Men	Women		
RISA	2007/08	45	5	3	53	64	11	8	50	133	186	10	3	0	13	199
	2008/09	58	7	5	70	69	12	10	51	142	212	15	6	0	21	233
SAASTA	2007/08	10	1	1	12	14	1	0	7	22	34	0	0	0	0	34
	2008/09	9	1	1	11	12	2	3	7	24	35	0	0	0	0	35
SAAD	2007/08	6	23	2	31	4	20	1	7	32	63	28	6	4	38	101
	2008/09	10	24	3	37	6	22	1	8	37	74	27	8	5	40	114
HartRAO	2007/08	15	0	0	15	8	0	1	6	15	30	14	3	1	18	48
	2008/09	15	0	0	15	9	0	1	6	16	31	14	4	1	19	50
HMO	2007/08	5	5	1	11	1	3	0	4	8	19	14	0	0	14	33
	2008/09	4	5	1	10	2	5	0	2	9	19	14	1	0	15	34
SAIAB	2007/08	12	3	0	15	8	2	1	14	25	40	14	0	1	15	55
	2008/09	16	3	0	19	9	3	1	11	24	43	14	0	2	16	59
SAEON	2007/08	1	0	2	3	2	0	0	0	2	5	2	0	0	2	7
	2008/09	1	0	2	3	2	0	0	0	2	5	2	0	0	2	7
SKA	2007/08	5	2	1	8	4	2	3	5	14	22	18	1	0	19	41
	2008/09	6	0	1	7	6	2	5	6	19	26	26	2	0	28	54
NZG	2007/08	210	1	1	212	86	1	1	17	105	317	31	1	0	32	349
	2008/09	185	3	1	189	87	2	5	22	116	305	24	0	0	24	329
iThemba LABS	2007/08	45	81	6	132	25	41	1	17	84	216	68	12	4	84	300
	2008/09	47	77	5	129	23	43	0	17	83	212	72	6	2	80	292
TOTAL	2007/08	354	121	17	492	216	81	16	127	440	932	199	26	10	235	1 167
TOTAL	2008/09	351	120	19	490	225	91	26	130	472	962	208	27	10	245	1 207

Table 33: The status and representation of the NRF employees by occupational level as at 31 March 2009

Occupational Level	Designated									Total Designated Group	Non-Designated				Total Non Designated Group	Grand Total
	Men				Women						White Men	Foreign Nationals				
	Afr	Clrd	Ind	Total	Afr	Clrd	Ind	White	Total			Men	Women			
Top management	1	0	0	1	0	0	0	0	0	1	1	0	0	1	2	
Senior Management	Executive	4	2	2	8	0	1	1	0	2	10	4	0	0	4	14
	Other	16	5	3	24	7	4	4	15	30	54	22	5	1	28	82
Professionally qualified and experienced specialists and mid-management	48	16	11	75	27	9	9	48	93	168	106	17	7	130	298	
Skilled technical and academically qualified workers, junior management, supervisors, foremen and superintendents	57	49	1	107	41	22	1	29	93	200	55	1	0	56	256	
Semi-skilled and discretionary decision-making	67	44	2	113	79	48	8	33	168	281	2	0	0	2	283	
Unskilled and defined decision-making	141	0	0	141	61	0	1	1	63	204	5	0	0	5	209	
Total Permanent	334	116	19	469	215	84	24	126	449	918	195	23	8	226	1 144	
Non-permanent employees	17	4	0	21	10	7	2	4	23	44	13	4	2	19	63	
TOTAL	351	120	19	490	225	91	26	130	472	962	208	27	10	245	1 207	

List of acronyms

Afr	African	iThemba LABS	iThemba Laboratory for Accelerator Based Sciences
AFS	Annual Financial Statement	JINR	Joint Institute of Nuclear Research
AISA	African Institute of South Africa	KFD	Knowledge Fields Development
ASSAf	Academy of Sciences of South Africa	KPI	Key Performance Indicator
BRICS	Biotechnology Regional Innovation Centre	KPIs	Key Performance Indicators
CHE	Council for Higher Education	MCM	Marine and Coastal Management
CHPC	Centre for High Performance Computing	MRC	Medical Research Council
Clrd	Coloured	MTEF	Medium-term expenditure framework
CSIR	Council for Scientific and Industrial Research	NACI	National Advisory Council on Innovation
DEAT	Department of Environmental Affairs and Tourism	NASSP	National Astrophysics and Space Science Programme
DoE	Department of Education	NDA	National Department of Agriculture
DoH	Department of Health	NECSA	South African Nuclear Energy Corporation
DME	Department of Minerals and Energy	NEP	National Equipment Programme
DST	Department of Science and Technology	NNEP	National Nanotechnology Equipment Programme
Excl.	excluding	No.	Number
DWAF	Department of Water Affairs and Forestry	NRF	National Research Foundation
FTE	Full-time equivalent	NSI	National System of Innovation
GAAP	Generally Accepted Account Practice	NOSA	National Occupational Safety Association
GEO	Group on Earth Observation	NZG	National Zoological Gardens of South Africa
GMSA	Grant Management and Systems Administration	OECD	Organisation for Economic Cooperation and Development
GPS	Global Positioning System	PCT	Patient Cooperation Treaty
HartRAO	Hartebeesthoek Radio Astronomy Observatory	PhD	Doctor of Philosophy
HEIs	Higher Education Institutions	PRISA	Public Relations Institute of South Africa
HESA	Higher Education South Africa	PUB	Public Understanding of Biotechnology
HMO	Hermanus Magnetic Observatory	R&D	Research and Development
HICD	Human and Institutional Capacity Development	RISA	Research and Innovation Support and Advancement
HRTEM	High Resolution Transmission Electron Microscopy	S&T	Science and Technology
HSRC	Human Sciences Research Council	SA	South Africa
ICSU	International Council for Science	SAEON	South African Earth Observation Network
ICT	Information Communication Technology	SAAO	South African Astronomical Observatory
IFRS	International Financial Reporting Standards	SAASTA	South African Agency for Science and Technology Advancement
Incl.	including	SABINET	South African Bibliographic Information Network
Ind	Indian	SABS	South African Bureau of Standards
ISES	International Space Environmental Service		
ISI	Institute of Science Information		
ISO	International Standardisation Organisation		

SACAA	South African Civil Aviation Authority
SADA	South African Data Archives
SAEON	South African Environmental Observation Network
SAEOS	South African Earth Observation Strategy
SAIAB	South African Institute for Aquatic Biodiversity
SAICA	South Africa Institute for Chartered Accountants
SALT	Southern African Large Telescope
SANAP	South African National Antarctic Programme
SANBI	South African National Biodiversity Institute
SANERI	South African National Energy Research Institute
SANI	South African Nanotechnology Initiative
SANS	South African National Standard
SANSA	South African Network of Skills Abroad
SARCHi	South African Chairs Initiative
SET	Science, Engineering and Technology
SETI	Science, Engineering and Technology Institution
SKA	Square Kilometre Array
SLR	Satellite Laser Ranging
Snr	Senior
STAF	Science and Technology Agreements Fund
TIA	Technology Innovation Agency
the dti	Department of Trade and Industry
THRIP	Technology and Human Resources for Industry Programme
UNISA	University of South Africa
VLBI	Very Long Baseline Interferometry
WRC	Water Research Commission
yr	year



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