



*innovation for a
better future*

annual report
2009 • 2010

Cover theme:
Innovation to
protect planet
Earth: to serve
its people and
its environment

1. Mandate
2. NACI Council
3. NACI Perspectives on the NSI
4. Outputs 2009/10
 - Key Outputs
 - NACI's Advice
 - Committee Reports
 - NACI Impact
5. NACI Resources
 - NACI Secretariat
 - Financial Report
6. The Way Forward

To **advise** the Minister of Science and Technology, and, through her, Cabinet, on the **role and contribution of innovation** in promoting and achieving **national objectives**.

National objectives:

- Improving the quality of life of South Africans
- Promoting economic development and international competitiveness

The advice should be directed at

- Coordination and stimulation of the NSI
- Promotion of cooperation within the NSI
- Structure, governance and coordination of the S&T system
- Revision of innovation policy
- Strategies for promotion of technological innovation
- Identification of R&D priorities
- Funding of the S&T system

COUNCIL Members

Dr Steve Lennon (ESKOM) - Chair

Dr Phil Mjwara (ex Offico)

Dr Nththuko Bhengu

Prof Cheryl de la Rey (V-C, UP)

Prof Lineo Mazwi-Tanga (VC, CPUT)

Ms Khungela Njobe (CSIR)

Prof Francis Petersen (Eng., UCT)

Mr Geoff Rothschild (JSE)

Prof Jennifer Thomson (UCT)

Mr Paul Baloyi (CEO, DBSA)

Mr Kuseni Dlamini (CEO, OM)

Dr Azar Jammie (Econometrix)

Prof N. Ogude (DVC , UP)

Prof Gerhard Prinsloo (DUT)

Dr Johannes Potgieter (dti)

Prof. Arno van Zyl (DVC, US)

NACI has 5 specialist advisory committees that assist Council in generating advice:

- National Biotechnology Advisory Committee (NBAC)
- Science, engineering and Technology for Women Committee (SET4W)
- Indicators' Reference Group (IRG)
- Innovation for Development Committee (INNOV4DEV)
- NACI-CHE Task Team

**NACI's advice – consensus view of Councillors
extracted from discussions, workshops, national and international
studies**

1. NACI Perspectives on the NSI

INPUTS :

General Expenditure on R & D (GERD)

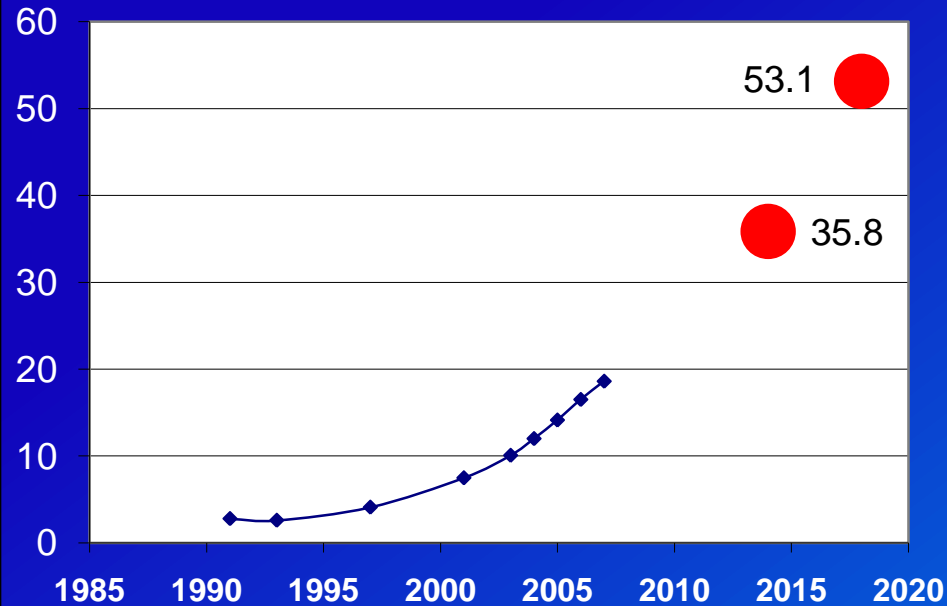
OUTPUTS :

1. Matric Mathematics Pass Rates
2. SET Graduates
3. SET Ph.D. Graduates
4. Share of global research publications
5. Number of SA –originated US patents
6. High-tech manufacturing exports
7. Knowledge-based workforce
8. FTE Researchers

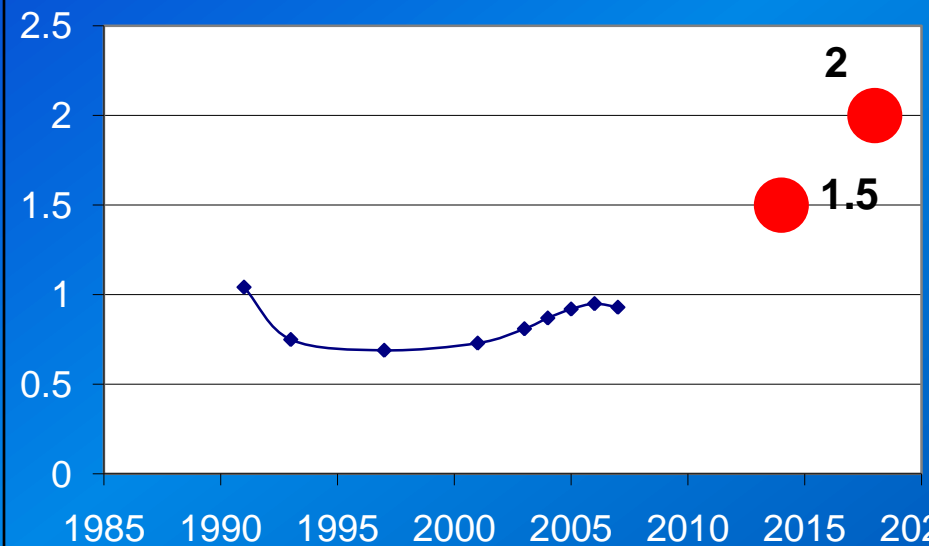
CONCLUSIONS

INPUT: General Expenditure on R&D (GERD)

R&D Expenditure (GERD) R billion

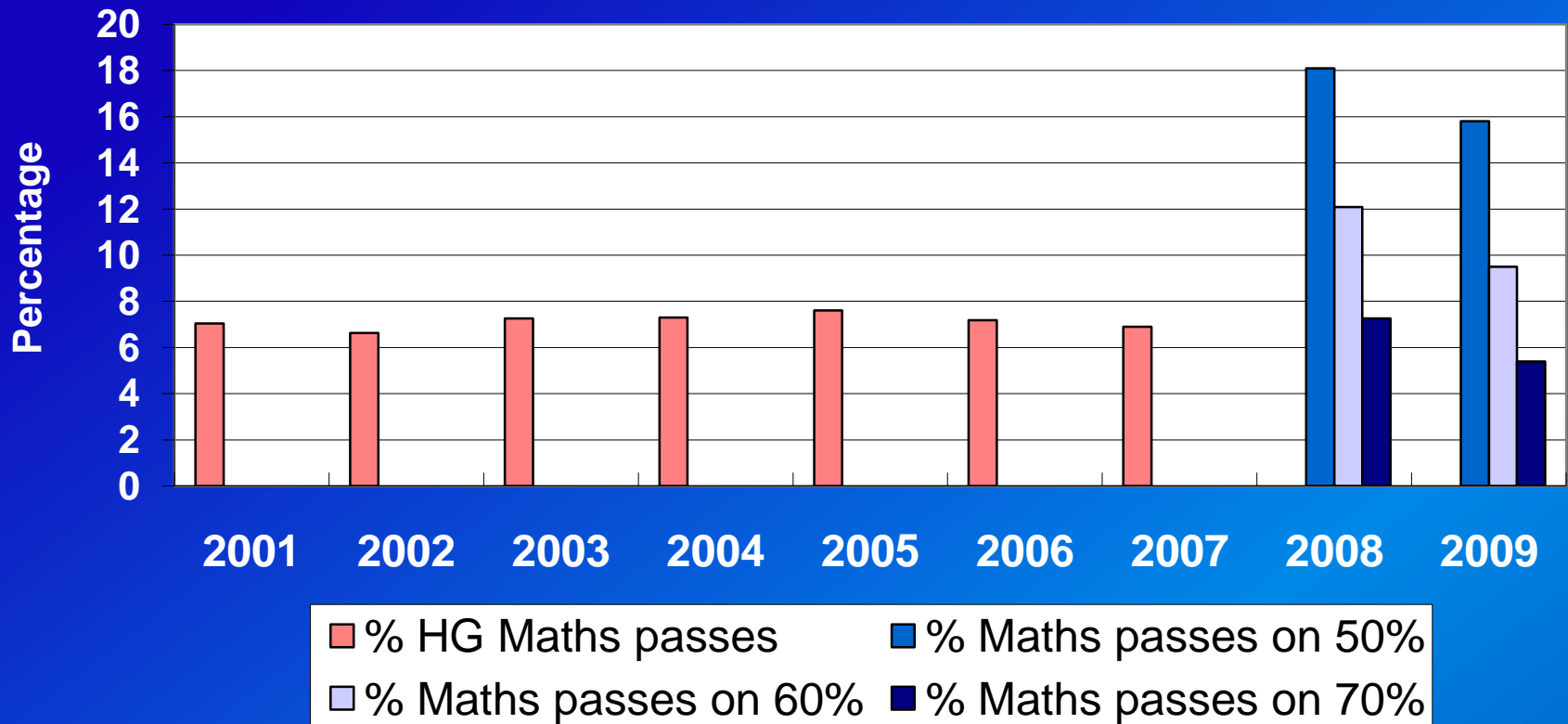


Gross Domestic Expenditure on R&D as Percentage of GDP



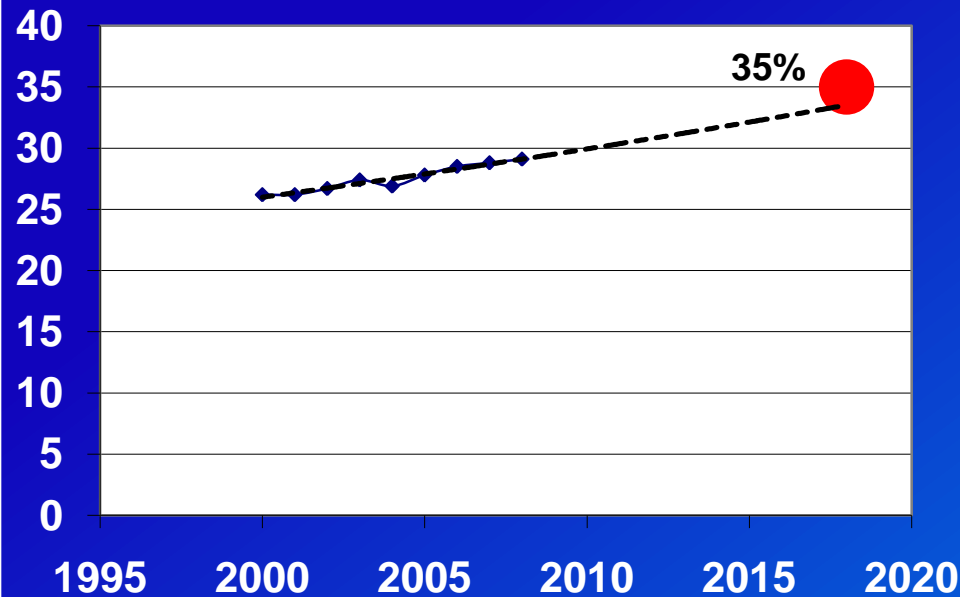
OUTPUTS : Matric Mathematics Passes

Matriculants with mathematics as percentage of total passes



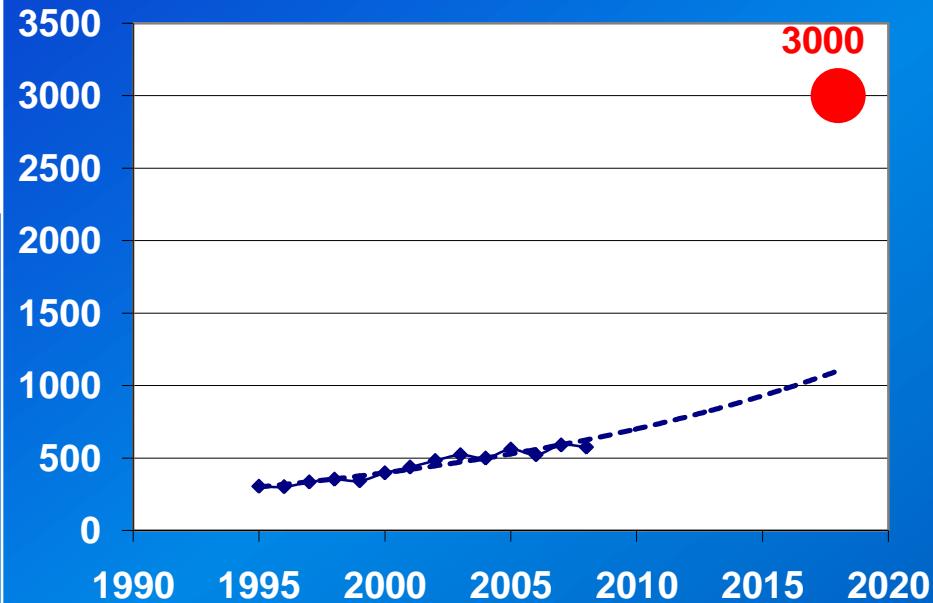
OUTPUTS: SET Graduates

SET graduates as a percentage of all graduates in HEI's



SET Graduates as percentage of all graduates at HEI's
Target by 2018 : 35%

Number of SET PhD graduates

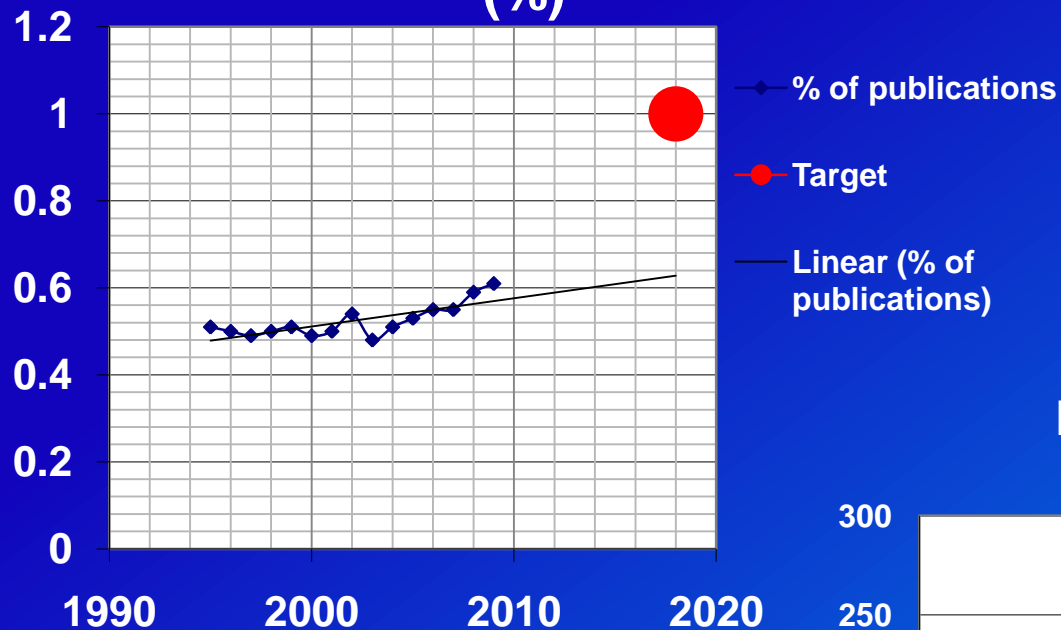


SET PhD graduates
Target by 2018 : 3000

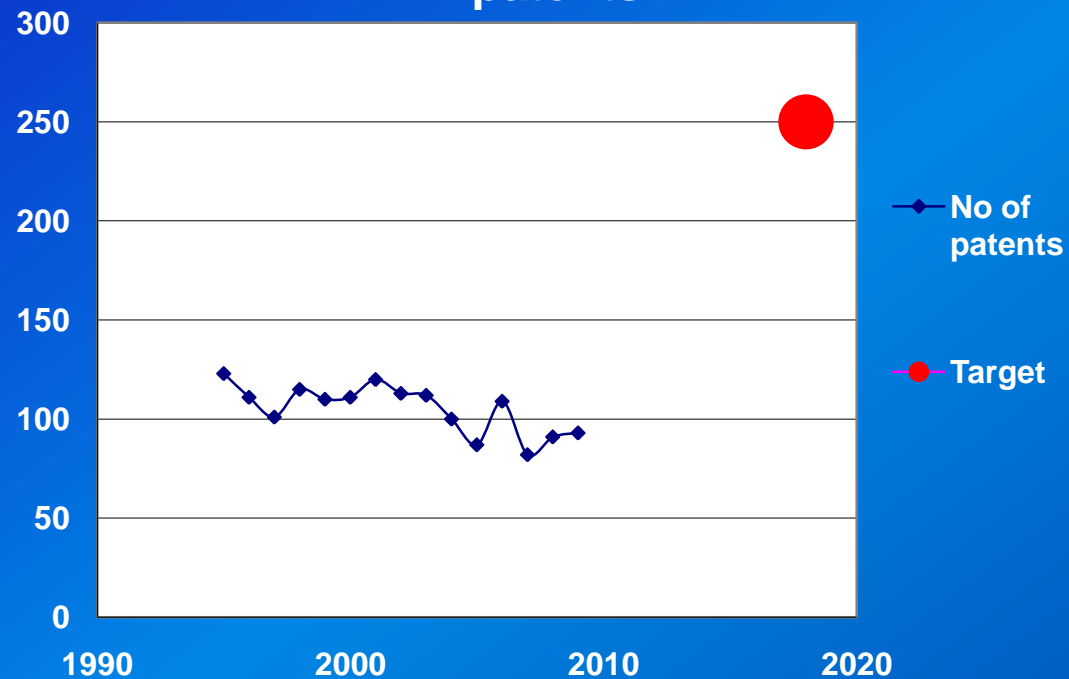
OUTPUTS : Publications and Patents

Share of global research publications

(%)

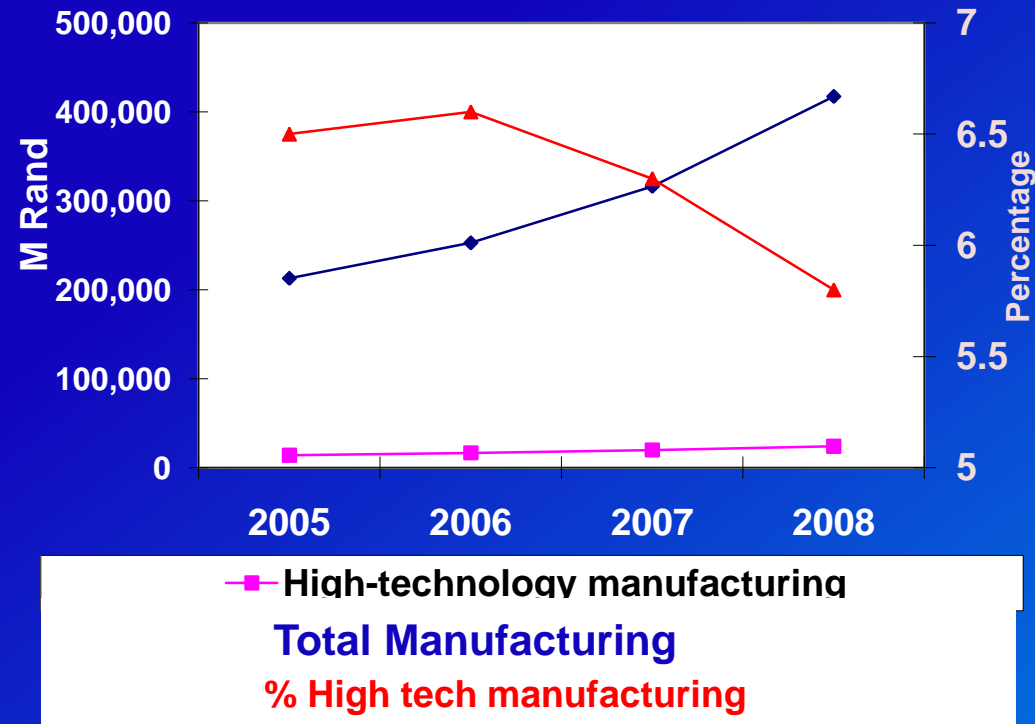


Number of SA-originated US patents

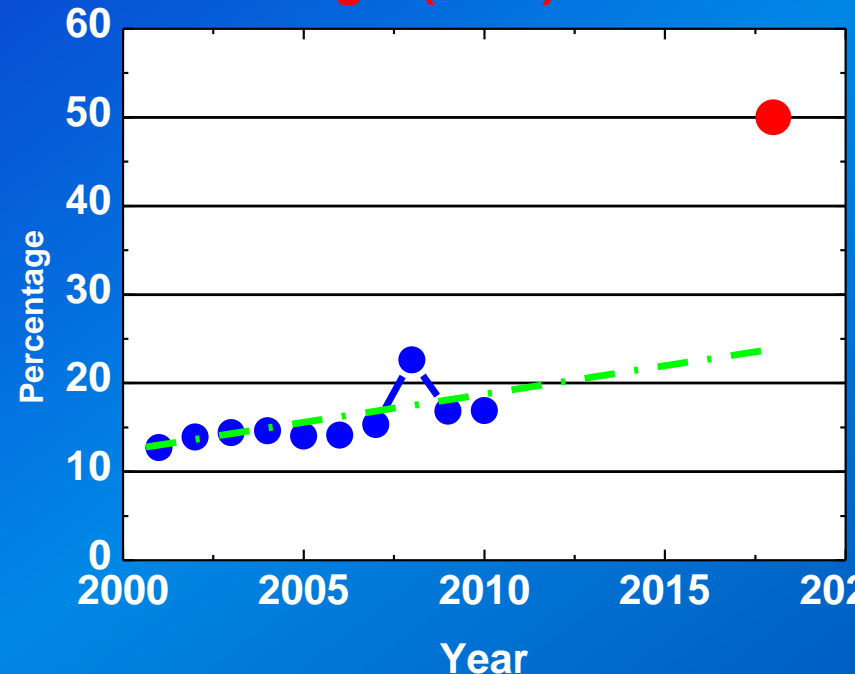


OUTPUTS: High-Tech Manufacturing, Workforce










High technology manufacturing exports vs total manufacturing exports




Percentage of Workforce in Knowledge-based jobs Target (2018) 50%



PERFORMANCE BAROMETER

| Measure | Target for 2018 | Projections | |
|---|-----------------|-------------|--|
| SET PhD graduates per year | 3000 | 800 - 900 |  |
| Number of SA-originated US patents | 250 | 125 |  |
| Workforce in Knowledge-based jobs | 50% | 19 – 28% |  |
| R&D expenditure as % of GDP | 2% | 0.6 – 1.3% |  |
| FTE Researchers per 1000 of the work force | 2.6 | 1.2 – 1.8% |  |
| High and medium-high tech exports (% of all exports) | 55% | 30 – 40% |  |
| GERD (R billion) | 53 | 42 - 43 |  |
| Global share of research outputs | 1% | 0.6 – 1.4 |  |
| SET Graduates as a % of all HEI graduates | 35% | 30 - 40 |  |
| Overall performance towards achieving targets of 10-Yr Innovation Plan | | | |

 **Highly unlikely to meet target**

 **Under performance**
Between 15 – 30% below target

 **On track to meet target**

Advice was delivered on:

- Implications of African S&T bi-lateral agreements on SA economy and NSI
- Impact of SA public understanding of Technology
- Funding environment of Sa biotechnology
- Biotechnology capacity – comparative studies
- Technology balance of payments as an STI indicator
- DST's 10-yr Innovation Plan
- Green Paper on National Strategic Planning

Interaction of with African counterparts in S & T.

- DST should develop an African S & T Collaboration Strategy – guide collaboration activities of various players in the NSI
- Prioritise support for collaborations with African institutes and countries -strength-to-strength partnerships
- DST – play a monitoring, coordinating and expert advisory role
- NRF approach (one size fits all) should be reviewed
- Funding model for STI Policy Support Programs, under NRF, be established

Apparent surge in SA's TBP → NACI enquiries into

- a) Value and appropriateness of TBP as an STI indicator
- a) Evaluation of accuracy of SA TBP data published by the OECD

Recommendations

- DST request SARB to publish TBP data regularly, or provide data to the DST
- DST – liaise with SARB to supply OECD with comprehensive TBP data
- DST provide SARB list of companies with inter-border transactions
- Factors that fuel high TBP deficit – be identified and addressed
- Disaggregate TBP data → formulate appropriate recommendations

Development and retention of human capital for Biotechnology

Career pathways be improved

- increase in no. of available jobs
- personal tax incentives
- biotech focused research grants

DST encourage support for biotech through the dti's THRIP program

Government Leadership in the development of SA Biotechnology sector

DST facilitate meetings of NBAC with officials from Depts. of Health, and of Agriculture, Forestry and Fisheries -

Govt establish a M & E system for the biotechnology sector

DST compile a biennial electronic data base of all relevant biotech funders and supporters

SA Public' perceptions of Biotechnology

**Targeted Government support and cluster development
for national biotechnology sector growth**

Government support for biotechnology commercialisation

(AR, p 28)

NACI view on DST's Ten year Innovation Plan

- Cost estimates should be included in implementation plan
- Grand Challenges should be prioritised over the Medium Term Strategic Framework
- Plan should be adopted by Government as a cross-cutting strategic frame work
 - DST (as custodian) should ensure that priorities in the Plan are congruent with priority areas of other line departments

NBAC :

Three business meetings + 2 extra ordinary meetings

Workshop : A 1-day workshop on

Policies and strategies to create and sustain knowledge base and support commercialization

Systemic support across value chain

Coordination and monitoring of biotech innovation system

Research

Biotechnology capacity: comparative study

The funding environment

Impact of public understanding of Biotechnology

Ministerial Advice

SET4W (SET for Women Committee)

Meetings

3 business meetings and a Strategic Planning session

Publications

Facing the facts: Women's participation in SET

Good practice guidelines for enhancing the participation of women in SET

Changing perceptions of women in SET

Indicators Reference Group (IRG)

Business Meetings

Three business meetings

Workshop

on Measuring and Monitoring Innovation in South Africa

Publications

SA Science and Technology Indicators (2009)

Research

An assessment of key data bases supporting the SA STI indicator system

An assessment of the value of technology balance of payments as an indicator of the knowledge based economy

Innovation for Development Committee (INNO4DEV)

Meetings

Three business meetings + 1 extraordinary meeting

Workshops

A workshop of innovation experts

- identify key drivers of innovation and early key priority areas
- develop an initial framework for innovation for development

Research

Best international innovation projects relevant to South Africa

Establishment of 'low hanging fruits' through engagement with CityLabs and related organisations

Impact of SA's poverty programs on social challenges

NACI-CHE TASK TEAM

Business Meetings

Two meetings

Research

initiated the following policy investigations:

An assessment of demand for skills by the business sector

Funding instruments for SET human capital

Utilization of NACI's advice (2004 – 2009)

| Outcome | Number of projects |
|--|--------------------|
| Contribution to the pool of knowledge in the DST and/or incidental utilisation | 2 |
| Utilisation as a supportive or substantive contribution to strategy/policy | 19 |
| Not utilised in any way | 5 |

19/26 sets of advice utilised in supportive or substantive way

Impact of NACI's advice (2004 – 2009)

19 sets of advice were utilised in policy and/or strategy development in the period 2004 – 2009

(AR:p24-25)

Utilization of NACI's advice (2004 – 2009)

| Outcome | Number of projects |
|--|--------------------|
| Contribution to the pool of knowledge in the DST and/or incidental utilisation | 2 |
| Utilisation as a supportive or substantive contribution to strategy/policy | 19 |
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19/26 sets of advice utilised in supportive or substantive way

NACI funding came from DST's Program 1: Administration.

Expenditure, administration and compliance with PFMA were dealt with by the DST's HR and Finance Divisions.

Expenditure for 2009/10: R13 785 000.

substantial increase due to re-location of NACI office from DST to premises in Persequor Technopark in September 2009.

| Expenditure | 2009/10 | 2008/09 |
|---------------------------|-------------------|------------------|
| Capital assets | 856 000 | 13 000 |
| Goods and services | 7 732 000 | 5 430 000 |
| Compensation of employees | 5 098 000 | 3 534 000 |
| Total | 13 785 000 | 8 354 000 |

Head

K Bharuth-Ram
01.07.2010

Snr Specialist Policy analysis

Dr H. Boraine
Until 30.07.10

Ms N Buthelezi

Mr S Mpele

Mr T Netshiluvhi

Policy Analyst

Mr L Adons

Ms R. Maila

Mr N. Tsatsi

Ms N Galeda

Admin Officers

Ms C. Mzolo, Ms M Masia, Mr Thabo Mosenthal

1. **Amendment to NACI Act** – independence, of advice
- optimize influence and reach
2. **Alignment and engagement with National Planning Commission**
3. **Advice on**
 - Broad base innovation to address socio-economic challenges
 - Funding of SET human capital
 - Strategies to improve participation of women in SET
 - Progress in the NSI – based on most recent STI indicators
 - Top priorities of the DST in contributing to national goals
 - Renewal energy research and development
 - Effective innovation and policy interventions

3. Profile and stature of NACI

ENKOSI
THANK YOU
RE A LEBOGA
SIYABONGA
DANKIE

