

FORESTRY SCIENCE SYMPOSIUM: Science and Technology: Underpinning Sustainability: Public Private Partnership in Research: A Key Enabler

Sunita Kalan

Director: Sector & Local Innovation

Department of Science & Innovation

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Making *sure* *it's possible*



science & innovation

Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

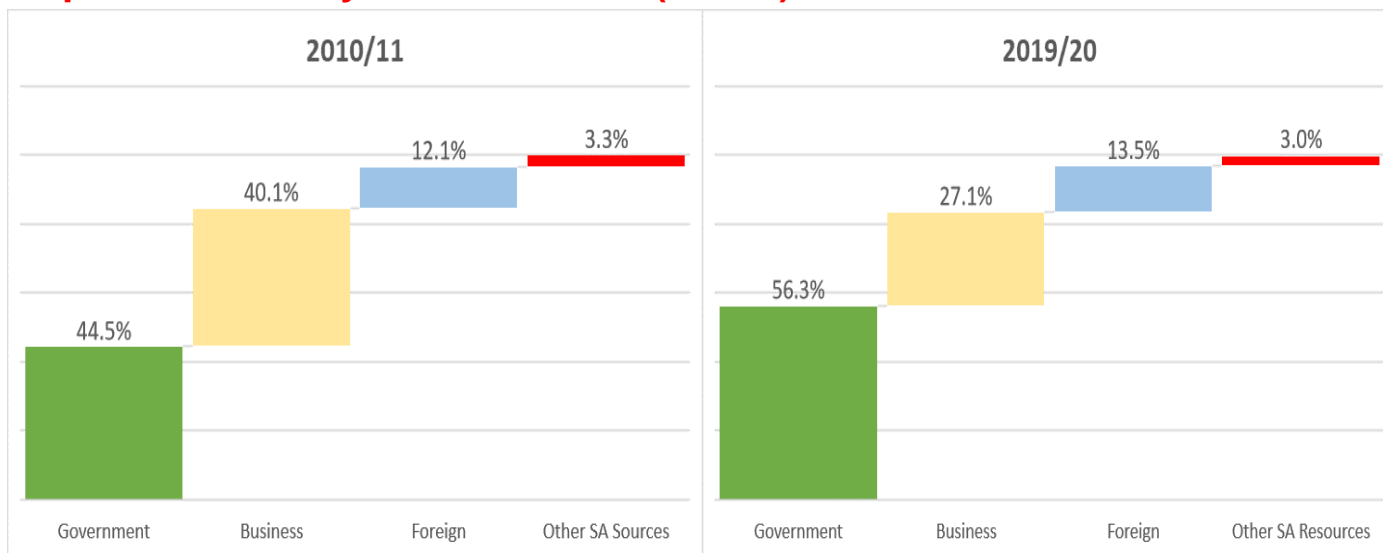


PRESENTATION OUTLINE

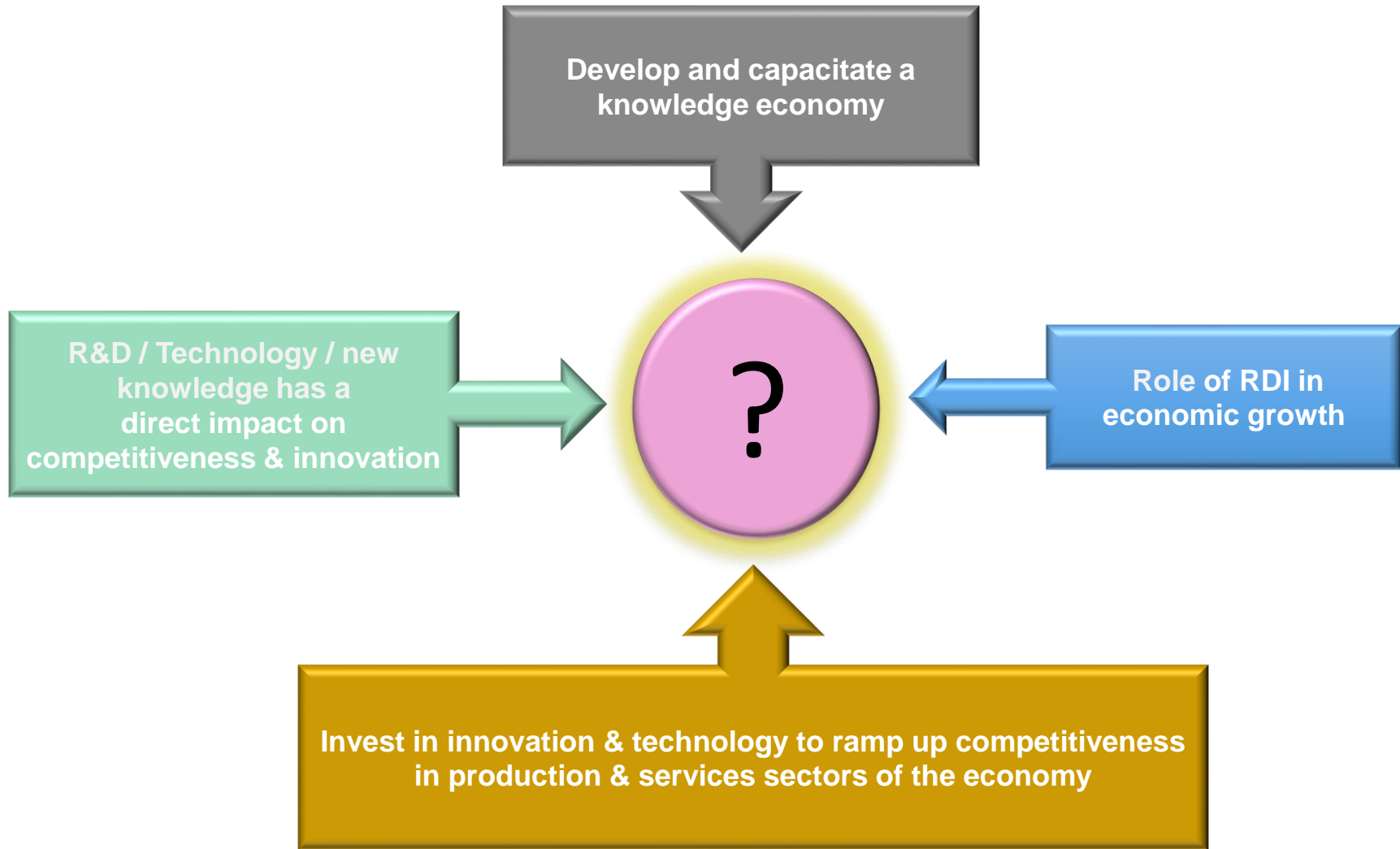
- Importance of investing in Research Development & Innovation
- Public Private Partnerships in Research as an Enabler
 - Case study: The Sector Innovation Fund programme
 - Other RDI collaborations
- Food for thought

2019/20 Research and Development Survey Results:

- The government sector remained the main funder of R&D in 2019/20 with **56.3%**, followed by the business sector with **27.1%** and then foreign sources with **13.5%**.
- Government increased funding overall by **R1.942 billion**.
- Business decreased funding of R&D by **R5.175 billion; and decreased performance by R3.743 billion (25.9%)**



Why invest in Research, Development & Innovation?

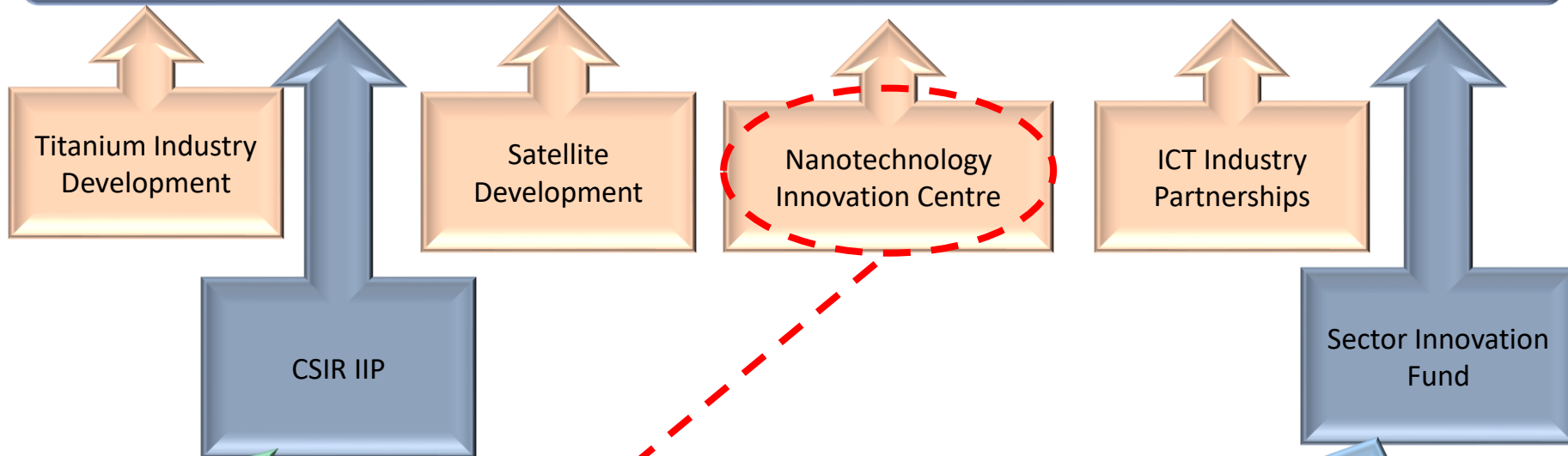


- Targeted initiative introduced in 2012/13 after the financial crisis to enhance economic competitiveness
- (Then) DST received a small portion of the total ECSP funding – enabled the DST to experiment with various industry-relevant initiatives
 - Industry Innovation Partnerships
 - Technology Localisation and Support

INDUSTRY INNOVATION PARTNERSHIP PROGRAMME

- Key goals:
 - Leverage industry investment in RDI by stimulating increased **RDI co-funding** & participation by industry players in projects to maintain and increase their export market share
 - Mitigate against **under-investment in technology & innovation** in identified niche and strategic sectors of SA economy so as to improve their competitiveness
- Key long-term outcomes measure may be **increased sector contribution to GDP** through stronger RDI-based industrial development

INDUSTRY INNOVATION PARTNERSHIP (IIP) INITIATIVE



1. Biomanufacturing Industry Development Centre (BIDC)
2. ~~Nanomaterials Industry Development Facility (NIDF)~~
3. Biorefinery Industry Development Facility (BIDF)
4. Photonics Prototyping Facility (PPF)
5. Nano-Micro Device Manufacturing Facility (NMDMF)

1. Fresh Produce Exporters' Forum (PHI)
2. Forestry SA
3. PAMSA/PAMDEV
4. Sugar Milling Research Institute (STEP-Bio & STEP-4IR)
5. SAMMRI
6. Winetech
7. Citrus Research International (RCE)
8. MIASA (MMIIF)
9. MFFASA (SU and RU)

- DSI intervention to enhance economic competitiveness of participating sectors
 - Create an enabling environment for industry relevant RDI priorities
 - Explore new approaches to fostering RDI partnerships with the private sector
 - Build stronger links between industry and the public science system
- Incentivises private sector to co-invest with government in RDI activities that address competitiveness and sustainability of participating sectors
- Managed by Industry associations or bodies
 - Formal entities
 - Representing interest of members
 - DSI participation on governance structures
- Industry identifies challenges & determines the RDI agenda
- Objectives:
 - Increasing level of private sector RDI in South Africa
 - Improving general competitiveness of the sector
 - Increasing RDI capacity in the sector
 - Human Capital Development & knowledge generation
 - Contribution to knowledge product portfolio
 - Increased private sector investment in RDI
 - Transformation:
 - Emerging and small players in sector
 - SET base and research capacity

SIF Implementation (since inception)

- Implemented through a call for proposals process
 - Proposals are evaluated by a SIF Evaluation Panel
 - DSI, DFFE, DALRRD, dtic
- Industry associations supported:

Pilot Phase (13/14-17/18)	2 ND Phase (18/19-21/22)	3 RD Phase (22/23-25/26)
SMRI	SMRI	SMRI
CRI	CRI	WINETECH
WINETECH	WINETECH	PAMDEV
PAMSA	PAMDEV	FPEF
SAMMRI	SAMMRI	FSA
FPEF	FPEF	SARC
MIASA	FSA	
FSA		
MFFASA		

- Each SIF has a Steering Committee and a Technical Committee
 - DSI represented on each Steering Committee
 - Inclusive active industry participation of industry partners in these committees
 - Emerging/small players?
 - DALRRD (WINETECH and FPEF), DFFE (FSA, SARC) and dtic (PAMDEV and SMRI) representatives for relevant SIF Steering Committees

Key Performance Indicators

- Basket of measures at **impact, outcomes** and **output** levels
- Industry relevant skills and knowledge

Human Capital Development & Knowledge Generation

- # of students & interns supported
- # of students & interns who become employed as a result of being supported
- # of publications in accredited journals

Contribution to Intellectual Property Portfolio

- # of knowledge or innovation products added to the IP portfolio
- # of knowledge or innovation products transferred

Transformation

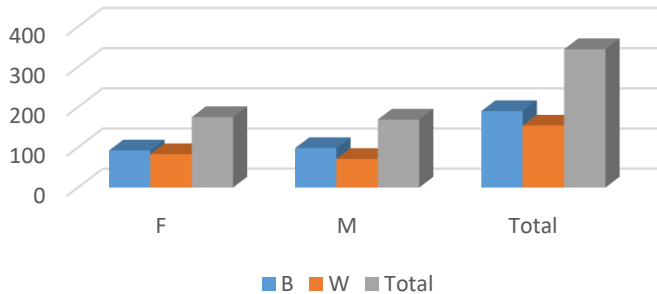
- # of knowledge or innovation products transferred to SMMEs, emerging or Black players in sector
- Proportion of Black students & interns supported
- Proportion of Research teams who are Black

Improved Competitiveness

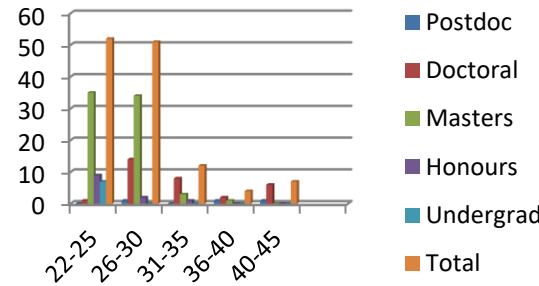
- Cash co-funding from industry
- # of jobs created

- **Human Capital Development**

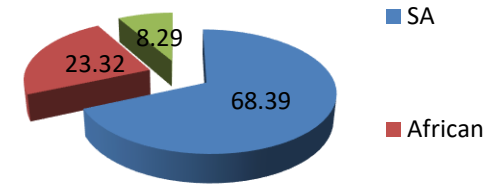
Students supported



Age Profile



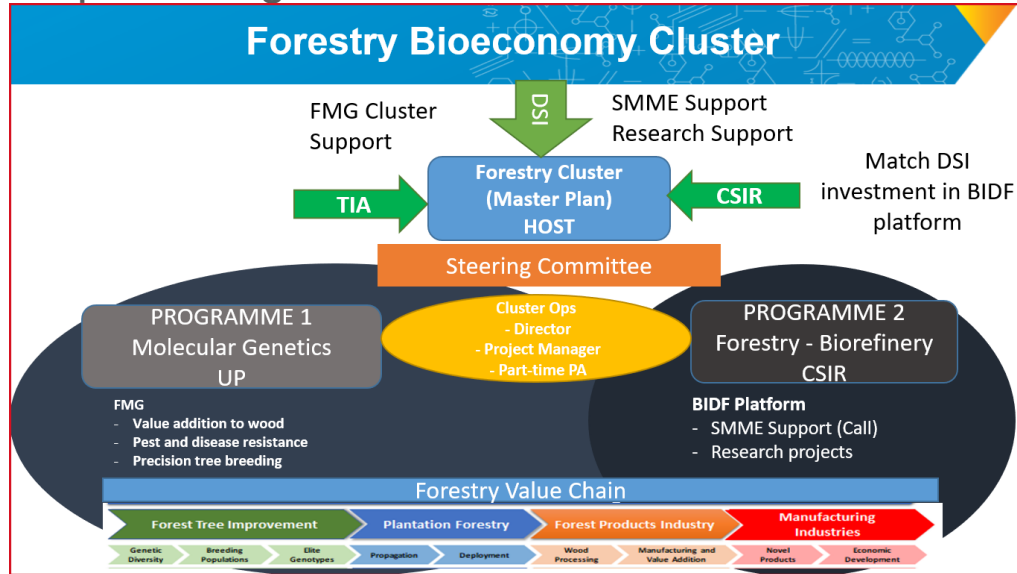
Nationalities of Students



- At least 20% already employed
- **Increased investment in RDI**
 - Industry co-funding: R107m
 - DSI Investment: R182m
 - FSA: R36m (DSI) to R24m (industry)
 - PAMSA/PAMDEV: R10.9m (DSI) to R6.8m (industry)
- **Improved Competitiveness**
 - Key Product and process interventions:
 - Cost savings; operational efficiency & optimization
 - Pest & disease control
 - Options in terms of diversification of products & revenue generation
 - Implementation of circular & digital economy principles

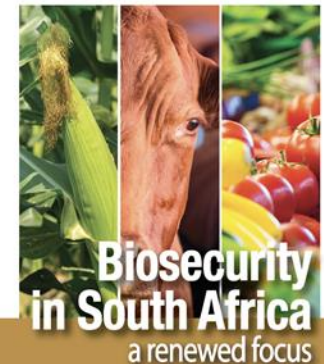
Other RDI collaborations with the Forestry Sector

- Forestry Bioeconomy Cluster:
 - Industry participates in governance structure of FMG Cluster Support



- National Biosecurity Hub
 - Linking the diagnostics clinics and warehousing data from FABI, ICFR, etc

NATIONAL BIOSECURITY HUB



Plant Health Animal Health Food Safety

• Case Study: Forestry Subsector

1) Forestry in South Africa is typically characterised as a mature, 'low-tech' industry

42% of firms > 30 yrs

61.3% of firms > 20 yrs

93% of sampled firms were large but these firms were less likely to be innovation-active

2) Less than 20% of forestry firms innovated in 2016-2018, and are more likely to be small firms

Forestry firms were seeking better and more efficient ways of planting, harvesting and processing trees, as well as logistical solutions for advanced manufacturing.

3) Process innovation is most prevalent in forestry

New or improved processes to improve timber yields (95.4%)

Deal with the effects of climate change (77.1%)

Reduce negative environmental impacts (63.4%)

4) Innovation in the forestry primarily led to highly successful outcomes related to the profitability of firms

Outcomes for innovation-active firms:

Increasing revenue (55.7%)


Reducing costs (55.7%)

5) Innovation activity remains low in the forestry industry in South Africa

A high proportion (82.3%) of forestry enterprises reported they were not innovation active



Sunita Kalan
Department of Science and Innovation
Sunita.Kalan@dst.gov.za



Dankie
Enkosi
Ha khensa
Re a leboga
Ro livhuwa
Siyabonga
Siyathokoza
Thank you