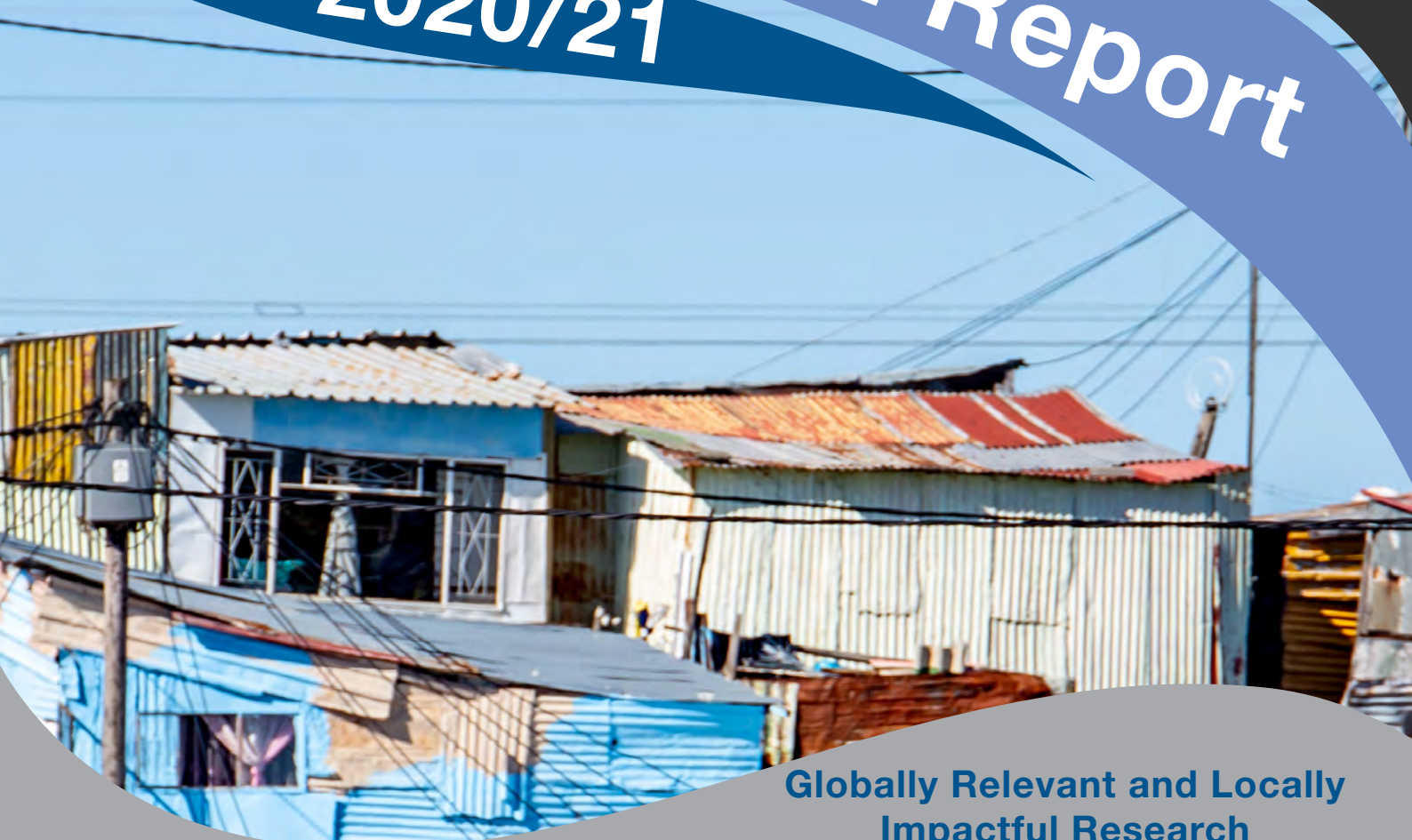




NRF Annual Report 2020/21



**Globally Relevant and Locally
Impactful Research**



science & innovation

Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA



**National
Research
Foundation**





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PART A: GENERAL INFORMATION

PUBLIC ENTITY'S GENERAL INFORMATION

REGISTERED NAME:	National Research Foundation (NRF)
REGISTRATION NUMBER (if applicable)	N/A
PHYSICAL ADDRESS:	Meiring Naudé Road Brummeria Pretoria 0002
POSTAL ADDRESS:	PO Box 2600 Pretoria 0001
TELEPHONE NUMBER/S:	+27 12 481 4000
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WEBSITE ADDRESS:	www.nrf.ac.za
EXTERNAL AUDITORS:	Auditor-General of South Africa (AGSA) PO Box 446 Pretoria 0001
BANKERS:	ABSA Corporate and Investment Banking, CIB 1st Floor, Lourie Place Hillcrest Office Park 177 Dyer Road Hillcrest 0183
BOARD SECRETARY	Raisibe Nkoana



FOREWORD BY THE CHAIRPERSON

The world is beginning to recover from what is a once in a century medical emergency that has threatened both lives and livelihoods. Much of the world's economic and social activities came to a halt as governments put in place measures to curb the spread of the virus in order to save lives. In addition, public resource allocation was reprioritised to finance the measures necessary to control the infections and mitigate the impact of the pandemic. However, the crisis also highlighted the critical role that science can play in providing innovative life-saving solutions during large scale intractable emergencies. The global science system, together with resources facilitated through collaboration between public and private institutions, made it possible to get vaccines in arms at breathtaking speed after comprehensive regulatory approvals. As a premier public entity that leads, advances and promotes the national science system of South Africa, the National Research Foundation supported researchers with cutting edge engineering and complex project management capabilities and made important contributions to the national response to the pandemic.

High level overview of the public entity's strategy and performance in its respective sector

In the 2020/21 financial year the NRF made impressive progress in laying the foundation for its ten-year strategic direction, as articulated in NRF Vision 2030 and the NRF Strategic Plan (referred to as Strategy 2025 – “Research for a better society”). The strategy of the organisation is built around four pillars, or themes, namely transformation, impact, excellence and sustainability (TIES). Research impact has become a key organising theme for the strategy around which a clearer roadmap will take shape to enable the organisation to move

closer to its impact statement, realise its outcomes and achieve its outputs. During 2020/21 significant progress achieved against two of the strategic themes was as follows:

- **Transformation:** The NRF commenced implementation of the DSI-NRF Postgraduate Students Funding Policy that improves support provided to students from working class and poor households. Additionally, development of the Leading Researchers and Scholars Programme aimed at supporting the early career researchers to become established researchers is at the stakeholder engagement stage and implementation is expected during the next financial year.
- **Impact:** The Research Impact Agenda has also advanced through the development of the Research Impact Framework through a process that is inclusive and transparent, and seeks to involve all players in the National System of Innovation. Through this framework, the organisation will be able to respond to the increased focus on innovation put forward in the STI White Paper of 2019. The implementation of the framework will commence during 2021/22.

Strategic Relationships

The NRF maintains sound relationships with both local and foreign peer and partner organisations. The organisation takes up membership in regional and global science bodies on behalf of South African science. The NRF is often able to access additional funding through these relationships and also facilitates opportunities for participation in international science projects and access to cutting edge research infrastructure and institutions for South African students and researchers. Important

projects that were initiated or registered significant progress during 2020/21 include:

- Agreement signed with the Canadian industry Mitacs, to bolster the industry and placement of post-graduate students and early career researchers.
- The first 10 OR Tambo Africa Research Chairs were launched.
- The South African Radio Astronomy Observatory (SARAO) coordinated the National Ventilator Project (NVP) in response to the COVID-19 pandemic resulting in the manufacture of 20 000 units.
- A rapid fund was established by a number of partners including the NRF, under the auspices of the Science Granting Councils Initiative in Sub-Saharan Africa (SGCI), to support Africa's response to COVID-19.

The NRF will continue to play an influential role aimed at advancing the transformation of the research enterprise to become more diverse, impactful and inclusive.

Challenges Facing the Board

The Board of the NRF remains fully constituted and faced no challenges in executing its oversight role during the reporting period.

The Strategic Focus Over the Medium to Long Term Period

The NRF recognises the growing national expectation for all efforts financed through public resources to yield significant and recognisable benefits to society. The

research impact agenda will provide a fulcrum for a strategy that will increase support for innovation and mission-oriented research in order to achieve optimal balance across the different stages in the knowledge value chain. The organisation will also complete its flagship mission-critical research infrastructure projects such the Square Kilometer Array telescope (SKA), SARIR research infrastructures (EFTEON and SMCRI) and the South African Isotope Facility (SAIF), while exploring the establishment of the Centre for the Study of Pandemics to ensure better preparedness for future pandemics.

Acknowledgements/Appreciation

I would like to thank the Minister of Higher Education, Science and Technology, Dr Blade Nzimande, and officials of the Department of Science and Innovation (DSI) for their support of the NRF and its work. I would also like to express my gratitude to fellow Board members, Executive Management, Dr Molapo Qhobela who served as the CEO until December 2020; and Dr Gansen Pillay who served as Acting CEO until the end of 2020/21, and all of the employees of the NRF for their dedication and contribution to the success of the organisation.



Dr Nompumelelo Obokoh
Chairperson of the Board



CHIEF EXECUTIVE OFFICER'S OVERVIEW

The NRF remains committed to the National Development Plan (NDP) goal of resolving the triple challenges of poverty, unemployment and inequality. Through the NRF Vision 2030 and in alignment to the 2019 STI White Paper, the organisation has embarked on a transformative journey, that aims to achieve demographic diversity of the research workforce, a balance in supported research along the innovation value chain as well as improved inclusivity of science domains. During 2020/21, ground breaking NSI wide engagements to explore an articulation of research impact framework as the future approach to evaluation of research took place under the leadership of the NRF. In the period ahead, the NRF will increase its focus on supporting realisation of socio-economic value from the research enterprise, while continuing to enhance the global competitiveness of the research infrastructure and investments in human capital and research institutional capacity development.

General Financial Review of the Public Entity

The NRF's total income has been decreasing in nominal terms, with figures for the previous three years at R4.117 billion in 2018/19, R3.944 billion in 2019/20 and R3.574 billion in 2020/21. The NRF maintained its in-principle decision to minimise the impact of the budget cuts on the support for postgraduate students and early career researchers, in order to secure the future and transformation of the research workforce. The organisation continued to honour its financial commitments to the development of international research infrastructure, and key strategic investments in research programmes, as they are key enablers for research to contribute to national development. The NRF ended the year with a relatively small unspent funds amounting to just under R3.16 million (0.09%) against an overall reduced income of R3.6 billion. The Parliamentary Grant funding was fully spent by year-end while the contract funding and grants awarded resulted

in significant carry forwards, explained in detail further on.

Spending Overview of the Public Entity

The NRF managed to keep its overhead expenditure at 9.5% (below the 10% benchmark set by the NRF in comparing similar research type organisations) by ensuring that it spent the bulk of its available resources on direct services for students and researchers in line with its mandate. Overall the actual expenditure, including net capital expenditure, decreased by R573 million compared to the budgeted expenditure.

During the financial year, the NRF funded 11 093 postgraduate students (compared to 11 918 in 2019/20) at Honours (4 320), Master's (3 984) and Doctora (2 789) levels. The lower numbers are due to pressures from budget cuts. Further declines are expected as a result of increased bursary values for needy students and students living with disabilities combined with continuing budget cuts and increasing inflation for postgraduate education. An amount of R2.127 billion in grants and bursaries was invested to support students, researchers and research infrastructure. The number of NRF-funded researchers during 2020/21 was 3 000, of which 1 320 are Women researchers and 1 455 are Black researchers.

Discontinued Key Activities/Activities to be Discontinued

No activities were discontinued as operations during the 2020/21 financial year.

New or Proposed Key Activities

There are no new or proposed activities.

Requests for Roll Over of Funds

There are no requests for roll over of funds.

Supply Chain Management

There were no unsolicited bid proposals that were concluded during the reporting period. The NRF maintains robust SCM processes and systems.

Challenges Experienced and How They Will be Resolved

A major and ongoing challenge remains centred on a need to increase public investment to resource the mandate of the organisation. There is a significant need to increase the reach and quantum of funding for postgraduate students and researchers. Currently, the NRF supports less than 10% of registered postgraduate students and approximately 20% of full time researchers and academics at universities. Equally important is the replacement, renewal and acquisition of essential research infrastructure to support for researchers and postgraduate students.

Audit Report Matters in the Previous Year and How They Would be Addressed

The Auditor-General (AG) expressed an unqualified audit opinion in the prior year, with no irregular expenditure incurred in 2019/20. Similarly, the AG expressed an unqualified audit opinion in 2020/21, however, the NRF incurred R12.9 million irregular expenditure. The irregular expenditure is due to the NRF having chosen a deviation sourcing method as opposed to a variation sourcing method for database subscriptions. The deviation sourcing strategy was considered the most appropriate by management as the suppliers of such databases are sole suppliers and the related contracts had expired by virtue of the depletion of the authorised contract amounts. Full value for money and services were delivered on all related contracts. In light of the funding cuts due to the COVID-19 pandemic, the NRF will continue to ensure that its limited and scarce resources are prudently and best deployed towards achieving optimal value in advancing its mandate.

Outlook/Plans for the Future to Address Financial Challenges

During the period ahead, the NRF will be exploring the balance of the portfolio of supported research across

the innovation value chain to give effect to the strong emphasis on innovation in the 2019 STI White Paper and its implementation plan - the STI Decadal Plan. The research impact agenda will also be implemented to ensure that the contribution of the organisation to national development is in line with its mandate and Strategy 2025.

Due to continuing constraints on public finances, the organisation will continue to seek opportunities to optimise its operations to become cost-efficient and seek out partnerships that can bring in additional income.

Events After the Reporting Date

There are no events of this kind to disclose.

Economic Viability

During the year under review, the NRF continued to maintain its going concern status by displaying sustainable financial performance and a resilient balance sheet.

Acknowledgement/s or Appreciation

I would like to express my appreciation to the Minister of Higher Education, Science and Innovation, Dr Blade Nzimande, MP, for his continuing leadership during the financial year.

I also want to thank the Board, under the leadership of Dr Nompumelelo Obokoh, for their oversight and direction. I further express my gratitude to the entire research stakeholder communities for their support; Dr Molapo Qhobela who served as the CEO until December 2020; and Dr Gansen Pillay who served as Acting CEO until the end of 2020/21. Lastly, and most importantly, I particularly wish to thank the NRF leadership team and all staff for their diligence, dedication and commitment to the delivery of our mandate, in service of the national science system.



Dr Fulufhelo Nelwamondo
Chief Executive Officer
National Research Foundation

STATEMENT OF RESPONSIBILITY AND CONFIRMATION OF ACCURACY FOR THE ANNUAL REPORT

To the best of my knowledge and belief, I confirm the following:

All information and amounts disclosed in the annual report is consistent with the annual financial statements audited by the Auditor General.

The annual report is complete, accurate and is free from any omissions.

The annual report has been prepared in accordance with the guidelines on the annual report as issued by National Treasury.

The Annual Financial Statements (Part E) have been prepared in accordance with the standards applicable to the public entity.

The accounting authority is responsible for the preparation of the annual financial statements and for the judgements made in this information.

The accounting authority is responsible for establishing, and implementing a system of internal control which has been designed to provide reasonable assurance as to the integrity and reliability of the performance information, the human resources information and the annual financial statements.

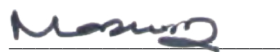
The external auditors are engaged to express an independent opinion on the annual financial statements.

In our opinion, the annual report fairly reflects the operations, the performance information, the human resources information and the financial affairs of the entity for the financial year ended 31 March 2021.

Yours faithfully



Dr Fulufhelo Nelwamondo
Chief Executive Officer
July 2021



Dr Nompumelelo Obokoh
Chairperson of NRF Board
July 2021

1. STRATEGIC OVERVIEW

Vision

The NRF’s strategic vision is that of knowledge and research being at the epicentre of national development. It is about a knowledge and research enterprise whose products and effects bring about the advancement of the frontiers of knowledge, improve the quality of life for the people of our country, improve competitiveness of strategic sectors and industries of our economy, provide for better protection and preservation of our national natural heritage, and lead to the elevation of the technological base of our country. All of these are done in order to bring about a better society through research.

“Research for a better society.”

Mission

As per its statutory mandate, the NRF’s raison d’etre is:

“To enable and facilitate the contribution of knowledge and scientific research to national development.”

Values

The NRF values reflect the organisation’s core ethical code and principles. They are espoused values that inspire employees to embrace the NRF’s aspirations of a workplace that represents NRF institutional culture. The NRF values support its long term strategic direction and the critical success factors for the knowledge enterprise being, transformation, impact, excellence and sustainability.

Figure 1: NRF values



2. LEGISLATIVE AND OTHER MANDATES

The NRF was established in 1998, through the National Research Foundation Act (Act No. 23 of 1998, as amended) as a schedule 3A public entity in terms of the PFMA. The context within which the NRF functions is informed by various strategic frameworks, legislation, policies and plans. Amongst these are those that outline developmental priorities for the nation, and in particular for the Higher Education, Science and Technology (HEST) sector in the medium to long term. The objectives and priorities relevant to the NRF's mandate, planning and priorities, are discussed below.

[National Research Foundation Act, 1998 \(act 23 of 2018 as amended\)](#)

This Act established the NRF, and provides the object of the NRF, which is to contribute to national development by:

- Supporting, promoting and advancing research and HCD, through funding and the provision of the necessary research infrastructure, in order to facilitate the creation of knowledge, innovation and development in all fields of science and technology, including humanities, social sciences and indigenous knowledge.
- Developing, supporting and maintaining National Research Facilities.
- Supporting and promoting public awareness of, and engagement with science.
- Promoting the development and maintenance of the national science system and support of government priorities.

[National Development Plan: Vision 2030](#)

The central intention of the NDP is the achievement

of economic well-being for all South Africans. It aims to reduce poverty, unemployment and inequality by 2030 and identifies the knowledge economy and STI, as among the primary drivers of economic growth, job creation and socioeconomic reform. The NDP also outlines the need to improve the relationship between government, industry and the knowledge enterprise.

[White Paper for Science, Technology and Innovation, 2019](#)

The White Paper for Science Technology and Innovation (WP-STI) places STI at the centre of South Africa's development agenda. It recognises rapid technological advances internationally and the need for South Africa to position itself in responding to these developments. It advocates for the adoption of the principles of open science as a means of growing the STI outputs and impact. The White Paper acknowledges the country's achievements over the past decades, but notes the need to accelerate transformation of the knowledge enterprise to achieve an inclusive science system that is responsive and innovative. It prioritises the need to increase investment and expand the research system and to promote partnerships among universities, society, industry and government, to ensure a cohesive NSI.

[White Paper for Post-School Education and Training](#)

The White Paper for Post-School Education and Training (WP-PSET) advances priorities in the post-school education sector, including the expansion of the variety and number of post-school opportunities available to youth. It advances diversity, quality education, expanded access to postgraduate education, and research and researcher advancement.

White paper 3: A Programme for the Transformation of Higher Education, 1997

White Paper 3 emphasises a holistic approach to transformation, and the need to balance the transformation imperative with the need for expansion and development. It advances a higher education and research sector that is responsive to the needs of a democratic society and an inclusive economy. In addition, White Paper 3 recognises the importance of countering the isolation of the university sector during the apartheid period through international partnerships and internationalisation.

Policies and other mandates

Macro-policies and strategies of government developed by sector departments, including those in Higher Education, Science and Innovation, Health, Minerals, Energy, Agriculture, Environment, Water, and Industrial Development, are all crucial to the functioning and work of the NRF. Specifically, the DHET and DSI have developed and implemented a number of strategies and policies to guide the development of our science system and these include:

- The DSI Strategy for HCD for Research, Innovation and Scholarships.
- The DHET staffing South Africa's Universities Framework.
- The DSI Science Engagement Strategy.
- The DHET Research Outputs Policy.
- The DSI South African Research Infrastructure Roadmap (SARIR).
- The Ministerial Guidelines for Improving Equity and the distribution of DST/NRF Bursaries and Fellowships.

South Africa is also signatory to a number of international treaties, and in this regard there are a number of international strategies that inform the work of the NRF.

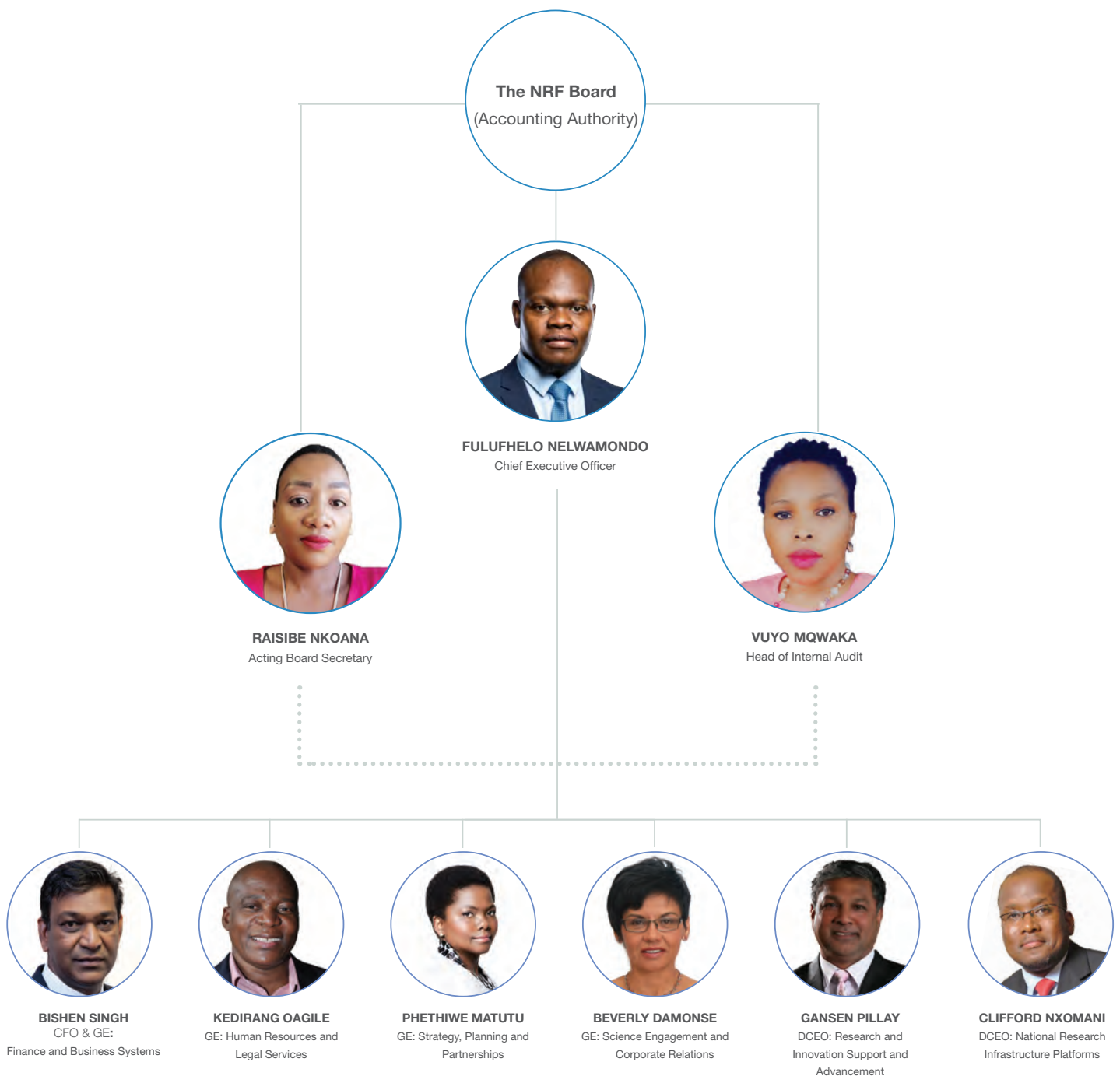
South Africa, and hence the NRF, has prioritised its contribution to the development of the continent, and in this regard the African Union's Agenda 2063 is key. It is the strategic framework for the socio-economic transformation of the continent and builds on, and seeks to accelerate, the implementation of initiatives for growth and sustainable development. Most important among these is the aligned Science, Technology and Innovation Strategy for Africa 2024 (STISA-2024), that identifies critical sectors for technology-led development aligned to the priority outcomes of hunger eradication, food security, prevention and control of diseases, communication, and wealth creation. It identifies four pillars for development, namely: building and/ or upgrading research infrastructures, enhancing professional and technical competencies, promoting entrepreneurship and innovation, and providing an enabling environment for STI development.

Globally, the United Nations' Sustainable Development Goals (SDGs) outlines internationally recognised areas of priority in order to advance a better and more sustainable future for all. It sets targets for 2030 to address multi-disciplinary global challenges such as poverty, inequality, hunger, health, education, equality, environmental concerns, innovation and economic growth. These challenges are considered priority areas in terms of research and innovation investment, aligned with and informed by strategic priorities of each country.

3. ORGANISATIONAL STRUCTURE

The NRF is organised into four Programmes namely: Administration, Science Engagement, Research and Innovation Support and Advancement (RISA), and National Research Infrastructure Platforms (NRIP). The Programmes work in a matrix fashion to deliver on the organisation’s core mandate. Figure 2 below is a representation of the NRF’s organisational structure, which also reflects the leadership and governance structures responsible for the accountability and integrity of the organisation.

Figure 2: High level organisational structure of the NRF







PART B: PERFORMANCE INFORMATION

4. AUDITOR GENERAL'S REPORT: PREDETERMINED OBJECTIVES

The Auditor General of South Africa (AGSA) currently performs the necessary audit procedures on performance information to provide reasonable assurance in the form of an audit conclusion. The audit conclusion on the performance against predetermined objectives is included in the report to management, with material

findings being reported under the Predetermined Objectives heading in the Report on other legal and regulatory requirements section of the auditor's report.

Refer to page 72 of this report for Auditor's Report, published as Part E: Financial Information.

5. SITUATIONAL ANALYSIS

The NRF functions within a national and international science system, with the key objective of developing, advancing and promoting research and innovation in order to contribute to national development. The focus for national development policies, plans and initiatives in South Africa is on the triple challenges of poverty, unemployment and inequality. The principles of sustainable development form the basis for the national development efforts which in turn inform the approaches to NRF strategic direction and medium term performance plans. The current MTSF period commenced with wide ranging disruptions of economic and social activities, which is set to have material impact on progress that can be achieved against five year commitments. The knowledge enterprise (researchers, research, research infrastructure and science engagement) contributes to national development through the impact (societal or knowledge) of the research it carries out. The NRF's Strategic Plan and Annual Performance Plan are informed by this key objective of National Development, which is central to its amended mandate.

The response to the global emergency precipitated by COVID-19 has strengthened international research and science efforts but has also exposed the disparities in capabilities for effective national responses among countries. Apart from the pandemic, the intensity of the challenges brought by climate change, insecurity of energy and water supply, and uneven development, can be addressed through directed-oriented challenge research. The onset of the fourth industrial revolution should also be embraced as both an opportunity and a threat to national development and therefore requires a high-level attention by the NRF and its sister entities in the NSI.

5.1 Service Delivery Environment

In the South African context, the NDP states that 'Science and technology continue to revolutionise the way goods and services are produced and traded. As a middle-income country, South Africa needs to use its knowledge and innovative products to compete'. It explains further that 'Innovation is necessary for a middle-income country to develop. Science and technology can also be leveraged to solve some of the biggest challenges in education and health'. Expectations and demands for science, research and innovation to provide solutions to societal problems have been on the increase, especially due the prominent role that research was seen to be playing in the national and global responses to the COVID-19 pandemic. Along with the improving public profile of science, came misinformation that tended to misalign the role of science and the overreliance thereon, this being exasperated by blame shifting when outcomes of interventions were not as anticipated. The NRF would need to adjust its service delivery model to increase the emphasis on the upstream activities in the research commercialisation value chain, while maintaining its current competitive position for supporting basic research.

Funding remains a key constraint, which has become particularly pronounced due to the expansion of the NRF's legislative mandate through the enactment of the latest amendment of the NRF Act in 2018. Over the years the science engagement programme of the NRF was mainly funded through contract funding. Together with allocations from the NRF baseline funding, the programme constituted just over an average of 4% of the total NRF budget over the decade. Further budget



cuts were made in 2020/21, and this is expected to continue for the medium-term period. Due to resource constraints, the implementation of some of the strategic initiatives, such as the NRF research agenda and embedding of engaged research, may be delayed and aligned to the completion of the STI Decadal Plan and outcomes of the HESTIIL review conducted by the DSI. These DSI direction setting exercises are expected to provide clarity on priorities for the next decade and the associated resourcing model will enable effective delivery of outputs that result in contribution to national development goals.

The reality is, there are competing national priorities vying for an ever shrinking pool of public resources, which requires that entities tasked with managing the investment of public funds in research and innovation should explore leveraging additional funds through partnerships from domestic and international private and public sectors. The NRF will therefore need to differentiate its offerings in support of human capacity development, research and innovation to align with an expanding stakeholder base and become world-class in service excellence as the go to public entity for grants management, specialist research related services, science engagement and the delivery of research infrastructure projects.

5.2 Organisational Environment

The COVID-19 global pandemic has resulted in the declaration of a national state of disaster by the President of the Republic of South Africa in order for the country to manage the spread of infections, save lives and minimise the socio-economic damage. The measures that have been enacted during the financial year have had a substantial impact on the economy, public finances and the immediate service delivery environment of many businesses and organs of state. This has necessitated the re-allocation of already stretched public financial resources towards emergency COVID-19 mitigation measures and the tabling of an updated budget by the Minister of Finance.

Areas affected by the implementation of the revised budget

The approach adopted by the NRF ensures that the reductions, are largely made up by deferring or postponing certain non-critical infrastructure projects, placing a temporary moratorium on the filling of vacancies; reducing operating costs; cancelling public facing science engagement events and scientific conferences as large gatherings are prohibited; and

the application of differentiated cuts on research funding. Care has been taken to ensure that active graduate internships; postgraduate student bursaries; postdoctoral fellowships; and research grants made to early and emerging career researchers, are not unduly adversely affected. These cuts, if maintained for longer than 2020/21, will adversely affect the sustainability of the NRF's operations and programme delivery capacity, as well as curtail efforts to transform the national research and innovation system to become more inclusive and competitive, potentially leading to lower impact on national development by the NRF than desired.

Implications on NRF programme delivery in 2020/21

The key affected areas in the service delivery environment include the following:

- Extended closing of higher education institutions and Science Councils that receive funding from the NRF to perform predetermined research activities and postgraduate training.
- The compromised revenue earning ability of NRF – iThemba LABS from isotope sales due to travel bans and border closures.
- Restriction on physical contact between people (social distancing), leading to cancellation of various science engagement and promotion activities, especially those involving large gatherings.
- The limited physical operations of the NRF and its network of collaborators.
- Challenges of working remotely, which is not entirely conducive to many aspects of the research enterprise.

Despite the challenges in the organisation's service delivery environment, the focus of the NRF over the duration of its Strategy 2025 and Vision 2030 will be the development of a sustainable resourcing framework that allows for long-term strategic planning based on predictable income and for it to invest in the research enterprise for maximum impact.

5.3 Key Policy Developments and Legislative Changes

Transformation of the science system continues to be a national priority. To this end the NRF has developed a Transformation Framework to guide its contribution to system transformation.

In giving effect to the framework, the NRF has developed a DSI-NRF Postgraduate Funding Policy and is developing a programme to support Early Career Researchers (ECR) and scholars.

6. PROGRESS TOWARDS ACHIEVEMENT OF IMPACTS AND OUTCOMES

The NRF Strategic Plan 2021 to 2025 is anchored on four strategic pillars: transformation, impact, excellence and sustainability. These were taken from the NRF Vision 2030 where they serve as the strategic lenses for the last decade of the implementation of NDP 2030. The impact statement of the NRF for the MTSF period

is “National development enabled through advancing, promoting and supporting research”. To achieve this impact, the organisation identified four outcomes which will be used to set performance priorities for the MTSF period. Table 1 provides an overview of how the NRF contributes to the MTSF outcomes and interventions.

Table 1: Contribution of the NRF to MTSF outcomes

MTSF Outcome	MTSF Interventions	NRF Contribution
Improve competitiveness through ICT (Linked to Priority 2 - Economic transformation and job creation)	Increase investment in gross expenditure on research and development.	The NRF is in a process of developing a national super-computing and big data analysis capability as a spinoff of the Research Infrastructure Platforms.
	Strengthen the National System of Innovation.	The NRF is in a process of developing a Research Impact Framework for NRF-led publicly funded research. Fund researchers through the various programmes of the NRF, including specific research projects focused on improving South Africa's ICT infrastructure capacity and competitiveness.
Expand access to post-school education and training opportunities (Linked to Priority 3: Education, skills and health)	Increased number of Black lecturers supported through the New Generation Academics Programme (nGAP).	Enable and facilitate appropriate applications for nGAP, effectively increasing the number of successful applicants. Such intervention should assist them to develop strong research grant applications that can successfully compete for the Thuthuka and other research grants.
Improved quality of post-school education and training provision (Linked to Priority 3: Education, skills and health)	Implement the nGAP.	With and through the nGAP and other relevant support, increase the number of pipeline post graduate students who are awarded bursaries through the NRF.
	Proportion of university lecturers who hold doctoral degrees.	Increase the number of nGAP-funded academics who, with the help of the nGAP grant, graduate to PhD-holding emerging researchers.



The organisation's progress towards achievement of an impact statement as at the end of 2020/21 financial year is outlined per outcome of Strategy 2025, beginning with outcome number one, as follows:

A transformed (internationally competitive and sustainable) research workforce

This outcome is aimed at addressing the challenge of both the lack of diversity among the researchers and the relatively smaller size of the research workforce per capita. The outcome indicator and targets direct the organisation to provide the type of support to students and researchers that would improve their likelihood of graduating and contributing to the expansion of knowledge and participation in national economic and social value creation activities. The target to improve throughput for postgraduate students from designated groups, increased from 74% to 80% for Black students as a proportion of all NRF supported students that complete qualifications and from 54% to 55% for women. These targets are to be tackled through implementation of policy choices which are now being implemented through the new DSI-NRF Postgraduate Student Funding Policy, with the first cohort enrolled in the 2021 academic year. This policy makes provision for postgraduate funding allocations to cover both the full and partial cost of study (FCS and PCS) and is underpinned by the principles of equity of opportunity, financial need of applicants and representivity prioritisation.

The five year targets for researchers are: The improvement from 31% to 40% for Black researchers as proportion of all NRF supported researchers that produced research outputs listed in the Web Science and from 33% to 40% for women. The NRF established the Leading Researchers and Scholars Programme (LRSP) to create a sustainable intervention that accelerates the career progression of exceptional early, mid- and advanced career researchers and scholars to become LRS in all fields of research and disciplines. The NRF will advance Equity, Diversity and Inclusivity in the Research Enterprise (with a heightened focus on African and Coloured women, and people living with disabilities). In 2021/22, further specific interventions for change in areas of the NRF's workforce where there is under-representation of designated groups, including people living with disabilities, will be embarked on to ensure increased representation and the necessary support. This will ensure a focus on equity, diversity and inclusivity across the different units of the NRF and will inform the development of section-specific interventions where necessary.

Enhanced impact of the research enterprise

This outcome is aimed at further developing the capability and capacity of the research enterprise for increased societal impact. The five year targets put together are: "(i) portfolio of excellent research supported by the NRF is justified with sound ex-ante and ex-post, (ii) research support portfolio informed by a deliberate research agenda and (iii) improved organisational and NSI analytics and its use in strategic decision-making". These targets are born out the acknowledgement of current characteristics of the South Africa research enterprise and the urgent need for a paradigm shift towards making the impact of research a more important criteria in allocation decisions for investing public resources in research. Because of the NRF's position in the NSI, and its interconnection with the overall landscape of research institutions, the organisation plans to provide thought leadership to influence this long overdue and necessary paradigm shift in the evaluation and funding of research. As at the end of 2020/21, the Draft NRF Framework to Advance the Societal and Knowledge Impact of Research was approved by the Corporate Executive for consultation with stakeholders. The development of NRF Research Agenda is underway and will be finalised once the STI Decadal Plan is completed to ensure alignment to a sector-wide long-term direction and priorities.

In advancing the RDIP in 2020/21, the technical architecture which includes the deployment of Microsoft Power Business Intelligence (BI) technology, has been designed and implemented. Consolidated reporting functionality that includes the analysis of DHET data as well as NRF grant making data was made available to the NRF staff as well as external users. The implementation of external access to the BI Platform will continue and be completed in 2021/22. The NRF in collaboration with DHET and the DSI will develop a research output harvesting tool in 2021/22 that will be used by research performing institutions. In 2022/23 the NRF will facilitate the uptake of the research output harvesting tool in the HEI's and Science Councils. In 2023/24 the NRF will develop predictive analysis functionality and provide related services.

Enhanced impact of science engagement

The NRF has long recognised the importance of a scientifically literate and critically engaged society as an essential requirement of the transition towards a knowledge economy and has, over the past 21 years, played a pivotal role in fostering this relationship through



an ever expanding and increasingly significant portfolio of science engagement. The NRF is also currently in the process of implementing NRF Strategy 2025 with a key focus on growing the science engagement portfolio to include support and promotion of engaged research for greater societal impact. The five year target for this outcome is: “mainstreaming of science engagement in the research enterprise”. The NRF recognises that this requires an ongoing process of embedding science engagement more holistically within NRF programmes and enabling engaged scholarship which produces co-created, self-reflective knowledge and new formations of community in the process. An Engaged Research Framework to advance the relationship between science and society is being developed. Consultative sessions have been held with national and international expert groups and engagements with six universities. All input has guided the drafting of a draft NRF Position Paper on Engaged Research which will be released for further engagements with the research community after May 2021. One other critical initiative that is being implemented is the creation of a fit-for-purpose South African Agency for Science and Technology Advancement (SAASTA), as a business unit of the NRF that is adequately structured and capacitated to deliver much broader roles and responsibilities nationally and globally that advance the relationship between science and society. This will also include enhanced business processes, systems, especially for information management as well as capacity and capability that will ensure more effective coordination of science engagement across the DSI entities and in collaboration with a network of STEMI partners, an extended responsibility assigned to SAASTA. A SAASTA business review and organisational development project was initiated in 2020 with the aim of ensuring that NRF, and its business unit SAASTA in particular, becomes a fit-for-purpose organisation that can lead the science engagement mandate.

The South African Research Chairs Initiative (SARChI) in science communication will continue to promote

the growth of academic partnerships in the science communication and engagement discourse.

A transformed organisation that lives its culture and values

This outcome is aimed at transforming the organisation towards a truly premier science organisation in both its outlook and execution of its mandate. Key to this change is the focus on values and culture as a foundation upon which the organisation is anchored to embrace uncertainty of the unfolding business landscape, pursue innovation in its offerings and operations as well as gain greater legitimacy with stakeholders through delivery compelling value. The organisation also aims to run efficient and effective operations that maximise value to the beneficiaries and stakeholders through prudent management of resources and modernisation of its business processes.

Over the next three years the issues highlighted in Strategy 2025 will be addressed through continued transformation efforts with respect to the demographic profile of the NRF staff in line with employment equity targets and affirmative action measures. An organisational culture which supports the delivery of NRF strategic direction and high performance will be co-created by formally assessing the manifest organisational culture and starting the process of building the desired culture that will underpin and sustain the delivery of NRF’s Strategy 2025 and Vision 2030. There will be continued execution of training as per the Work Skills Plan to ensure supportive opportunities for employees to develop and meet the organisation’s talent requirements by continuing Executive and Management Development Programmes and Coaching of employees at senior levels. There will be establishment of the Human Capacity Development support to produce technical skills linked to the requirements of the research infrastructure and implementation of interventions tailored to attract and retain the critical skills required for the sustainability of the organisation.





7. INSTITUTIONAL PROGRAMME PERFORMANCE INFORMATION

The strategic direction of the NRF is implemented through four budget programmes that enable organisation wide coordination and consolidation of steering, monitoring and control of execution and achievements against commitments. The four programmes are as follows:

- Programme 1: Administration.
- Programme 2: Science Engagement.
- Programme 3: Research and Innovation Support and Advancement (RISA).
- Programme 4: National Research Infrastructure Platforms (NRIP).

7.1 Programme 1: Administration

Overview

Programme 1 is comprised of shared services functions and systemic enterprise-wide coordination capabilities in order to achieve synergies, shared systems and economies of scale, and to provide strategic direction. The frugal yet optimal and efficient design of this programme is necessary especially in this phase of the national economic cycle, where resources are scarce, and the needs are too numerous for the available resources. Programme 1 comprises the following functions and/or sub-programmes:

- Strategy, Planning and Partnerships.
- Finance and Business Systems.
- Human Resources and Legal Services.
- Corporate Relations and Communication.

Sub-Programme: Strategy, Planning and Partnerships (SPP)

The purpose of Strategy, Planning and Partnerships (SPP) is to use evidence-informed strategic planning, policy experimentation and development, and strategic partnering as levers to advance the objectives of the NRF. The organisation is able to respond to new and emerging challenges, while responding to opportunities through strategic planning and positioning, building strategic partnerships, and building capacity to create a culture of making evidence-informed decisions. In this way SPP contributes to all NRF strategic outcomes.

Sub-Programme: Finance and Business Systems (FBS)

Finance and Business Systems provides shared service functions and coordination of organisation-wide processes to ensure compliance with statutory requirements for the management of public finance, accountability for service delivery, economical and transparent use of resources, compliance with legislative frameworks and ensuring ethical conduct. The sub-programme derives its mandate primarily from the PFMA and the NRF Act, and adopts best practices that enhances the business systems and governance practices to improve organisational effectiveness, accountability and performance.

Sub-Programme: Human Resources and Legal Services (HR&LS)

The purpose of this sub-programme is to create a conducive, attractive, inclusive and integrated transforming work environment where employees thrive and achieve not only excellence in their performance outputs, but also a sense of career fulfilment, engagement and total quality of work life, as well as provision of legal services, facilitation of harmonious employment relations to achieve labour peace and the management of the intellectual property generated from activities funded by the NRF.

Sub-Programme: Corporate Relations and Communication

The purpose of this sub-programme is primarily to build a positive reputation of the NRF, thus positioning it favourably in the perceptual maps of its stakeholders, which in turn helps to facilitate the pursuit of all the organisational outcomes. In addition, organisational culture is key to the delivery of the NRF Strategy 2025 and internal communication with employees remains an essential part of the journey to becoming the organisation we want to be. The mandate of Corporate Relations is therefore in service to the organisational vision and mission and its offerings and activities form an integral part of efforts to realise the organisation's ambitions to shape, influence and impact the national research system.

Progress against Programme 1 activities in contributing to the outcomes in the Strategy 2025

Outcome 4: A Transformed Organisation that lives its Culture and Values

The following progress for the reporting period is recorded in terms of the identified initiatives:

A transformed leadership and management cohort:

The Transformation, Diversity and Inclusion (TDI) "Train the Trainer" workshop took place during the reporting period and the first batch of 60 line managers (mixed occupational levels) attended. The workshop is set to be extended to more line managers in the near future. Progress towards achieving employment equity targets continues at a steady pace, with the overall representation of Black staff at 74.45% and Female representation (foreign nationals excluded) at 40.89% year to date. However, the proportion of employees from designated groups at Peromnes levels 1-7 stands at 47% for Black staff against the target of 46% and female representation is at 27% which is slightly below the target of 28%. The key challenge remains gender representation at executive and senior management levels. People with disabilities account for 0.49% year to date.

Provide lifelong learning support and opportunities to employees for development to meet the organisation's talent requirements:

Fifty five (55) employees have been enrolled in the various NRF Management Development Programmes (MDP) offered by University of Stellenbosch (USB). The Future Managers Development Programme (FMDP) has the highest number of enrolments this year with twenty one (21) and New to Managers Development Programme (NMDP) with twenty five (25).

Co-create an organisational culture to support the delivery of the NRF strategic direction and high performance:

The organisational culture assessment process is underway and the initial phase of the project is anticipated to be completed in September 2021.

Develop enterprise architecture, business processes and technologies to improve governance:

The implementation of the ERP project is delivered against a milestone schedule as agreed between the NRF and Decision Inc. There are 43 milestones for the project and by the end of the reporting period 67% (29/43) of the milestones were completed for the ERP project based on the project plan. The D365 Finance, Procurement and Legal modules are live and

have transitioned to standard operations where support is provided through the Service Level Agreement between the NRF and Decision Inc.

7.2 Programme 2: Science Engagement

Overview

The purpose of this programme is to advance science engagement and its main function is to lead and coordinate the discourse on science with and for society in support of the national imperative of developing a scientifically literate society. The ten year vision of the NRF is "Research that works for Society", which focuses the organisation on making a contribution towards improving the quality of life for all South Africans through advancing research, science, technology and innovation (RSTI). With the amendment of the NRF Act, the science engagement mandate now applies across the organisation, with the expectation that all Business Units in the NRF will contribute meaningfully to Programme 2 with SAASTA as its leading coordinator to ensure that the NRF executes its now legislative mandate of supporting and promoting public awareness of, and engagement with science.

The following outlines the key integrated strategic focus areas of science engagement:

- **Embedding engaged research**

The goals for this focus area are to build trust between publics and scientists; strengthen the interface between science and society; increase public understanding of the process and impact of science; embed high quality and innovative public engagement as an integrated part of research; influence and support public culture and democratic citizenship and enhance research and its impact.

- **Enabling public access to research and science engagement infrastructure**

The goals for this focus area are to ensure that a greater number of publics have access to science engagement infrastructure; and ensure that the investment in research infrastructure sees the maximum benefit to society through raising awareness of research capabilities and also profiling South African science achievements.

- **Support for the development of STEMI education**

The goal for this focus area is to ensure the provision



of support to the education sector to improve STEM participation and performance in order contribute to the expansion of the research workforce via human capital development interventions of the NSI.

- **Building science engagement capacity and capability**

This focus area ensures the development of science engagement skills and capacity for meaningful and impactful science engagement.

- **Public and private sector relations for development (PPSR4D)**

This focus area ensures the formation/creation and strengthening of relationships between the public and the private sectors in the endeavour to promote a more effective interface between science and society.

[Progress against Programme 2 activities in contributing to the outcomes in the Strategy 2025](#)

[Outcome 3: Enhanced Impact of Science Engagement](#)

During the year under review no non-financial output was specified due to the higher priority placed on reorganisation of the South African Agency for Science and Technology Advancement (SAASTA). The target was based on the choices that the organisation would make in reprioritising its expenditure allocation to include more science engagement activities. The organisation spent 2.5% of its total budget towards science engagement activities. The target for this indicator was revised from 3.5% to 2.1% in the amended 2020/21 APP given budget cuts as a result of the pandemic. The cancellation of mass participation events, such as science festivals and the lack of access to the school system had a negative knock-on effect on implementations and reach to the publics, learners and educators respectively.

The following progress for the reporting period is recorded in terms of the identified priorities and initiatives:

A fit-for-purpose capability for science engagement: The organisation embarked on an organisational development project to create a fit-for-purpose SAASTA, as a business unit of the NRF that is adequately structured and capacitated to deliver much broader roles and responsibilities nationally and globally. The final report on the proposed organisational redesign was completed as at the end of the 2020/21 financial year. National and international stakeholder

consultations were also undertaken in the development of an NRF Engaged Research Position Paper. A first draft position paper was formulated by the financial year end, with ongoing progress continuing into 2021.

Develop a system-wide science engagement management and information system: The focus moved towards the development of the project brief to inform the Science Engagement Information Management System (SEIMS) Terms of Reference (TORs). The project brief was developed and subsequently approved by the DSI. The Council for Scientific and Industrial Research (CSIR) was appointed to develop the SEIMS. Development of the system is set to commence in the new financial year.

Manage deployment of resources and capabilities required across the National System of Innovation (NSI) to accomplish strategic intentions: The Final SAASTA Organisational Design report, which included a skills audit report was completed and submitted to CorpEx in mid-March 2021. Staff training needs for a reimagined SAASTA were identified and a training plan is to be implemented during the next financial year. Training informed by the skills audit will only be implemented once the DSI and NRF engagements have been completed.

Develop a portfolio of science engagement and communication skills training for students and researchers across the NRF research investment areas: Six chapters of the new Framework have been completed with recommendations from stakeholders. The existing Science Centre for skills development program was reviewed and a new plan has been developed for implementation in the year 2021/2022. The DSI-NYS Mentorship Framework concept document has been developed. The Youth Science and Technology (YST) journalists have actively produced science and technology stories in ten of the eleven official languages. This has been especially impactful during the pandemic, where public audiences were increasingly engaged with science and scientific developments, especially in relation to health and safety. The YST journalists have also assisted with translating some of the new set of 16 SA Science Lens postcards into various languages increasing access through science communication SAASTA, through the Priority Area Public Engagement facilitated science communication workshops with Sol Plaatje University (SPU), Durban University of Technology (DUT), and the University of Zululand. The workshops aim to develop science communication capacity in specific thematic research. The multi-national COVID-19 Africa Rapid Grant was implemented by RISA and its international partners, with a funding stream focusing on science journalism and science communication.

7.3 Programme 3: Research and Innovation Support and Advancement (RISA)

Overview

The core purpose of Programme 3 is to give effect to the mandate of the NRF as described in the NRF Act, 2098 (Act 23 of 2098). The purpose of the programme is to support, promote and advance research and human capacity development, through funding, in order to facilitate the creation of knowledge, innovation and development in all fields of science and technology, including humanities, social sciences and indigenous knowledge.

The programme is subdivided into fine units responsible for providing for the varying needs of the research enterprise in line with the legislative mandate of the NRF:

- (i) Human and Infrastructure Capacity Development (HICD)
- (ii) Research Chairs and Centres of Excellence (RCCE)
- (iii) Knowledge Advancement and Support (KAS)
- (iv) Reviews and Evaluations (RE)

What follows is the brief description of the purpose and activities the key service delivery units of Programme 3.

Human and Infrastructure Capacity Development (HICD)

The core purpose of the Human and Infrastructure Capacity Development (HICD) directorate is to develop individual research capabilities by supporting next-generation and emerging researchers, as well as institutional research capabilities through the provision of, and support of access to, research infrastructure. The HCD pipeline is made up of the following developmental stages:

- (i) Next Generation Researchers.
- (ii) Emerging/Early Career Researchers.
- (iii) Established Researchers.

The institutional research capabilities support includes research equipment grants and grants for access to research infrastructure in other countries, as follows:

- (i) National Equipment Programme (NEP)
- (ii) Strategic Research Equipment (SRE)
- (iii) Joint Institute of Nuclear Research (JINR)
- (iv) Equipment-Related Travel and Training Grants (ERTTG)

Research Chairs and Centres of Excellence (RCCE)

This unit manages two strategic funding instruments, namely, the South African Research Chairs Initiative (SARChI) and the Centres of Excellence (CoE). SARChI is a strategic intervention designed to attract and retain excellence in research and innovation at South African universities. The CoEs are physical or virtual centres of research that concentrate existing research excellence and capacity and resources on enable researchers to collaborate across disciplines and institutions on long-term projects that are locally relevant and internationally competitive in order to enhance the pursuit of research excellence and capacity development.

Knowledge Advancement and Support (KAS)

The unit manages the funding instruments designed mainly for established researchers and research in niche research areas of national importance.

Progress against Programme 3 activities in contributing to the outcomes in the Strategy 2025

Programme 3 outputs contribute to the achievement of Outcome 1: A Transformed [Internationally Competitive and Sustainable] Research Workforce and Outcome 2: Enhanced impact of the research enterprise.

Outcome 1: A Transformed [Internationally Competitive and Sustainable] Research Workforce

The following progress for the reporting period is recorded in terms of the identified initiatives:

A transformed postgraduate student and researcher cohort through fit-for-purpose grants towards cost of studies (next-generation researchers): The NRF had awarded 11 093 bursaries across the honours (4 320), masters (3 984) and doctoral (2 789) levels. This achievement is due to additional awards (honours 676, masters 519 and doctoral 364) made during the year to address the projected shortfall followed by targeted communication to students to ensure timeous uptake of grants.

A transformed, excellent scientific/research cohort through grants towards cost of postdoctoral career development programmes (emerging researchers): The proportion of grants taken up by Black and Female researchers within this group, averaged 86% and 59%, respectively. The overall funding targets of 70% Black and 54% Female for this category have been exceeded



through deliberate grant awarding to Black and Female applicants.

Develop and implement a clear funding policy to ensure achievement of equitable support for researchers: The second draft on the NRF Equality, Diversity and Inclusivity (EDI) Framework for the Research Enterprise was submitted to the reference team, who have provided their inputs.

Framework for developing instrument scientists and technical professionals to ensure that they have career opportunities that retain their expertise within the research enterprise: A framework for Instrument Scientists and Technical Professionals is under development. Engagements with the DSI and DHET will take place in the first quarter of 2021/22.

Outcome 2: Enhanced Impact of the Research Enterprise

In addition to the financial support provided to researchers and post graduate students, support is provided to build institutional research capacity, of which the following programmes are critical:

National Equipment Programme: Due to a zero budget allocation for new awards in the 2020/21 financial year, no new awards were made. The latest call for applications was opened from February to end May 2020 and awards were finalised in December 2020 against the 2021/22 NEP budget allocation. A total of 21 grants to the value of R121 million were made. Of the 132 progress reports received, 112 (86%) reported as having fully commissioned the equipment. A total of 113 grantholders reported that the equipment is operational and reported on users, while 66 out of the 113 reported on users linked to outputs. In the 2020 academic year, a total number of 1 496 users utilised the research equipment and a total of 394 publications emanated from this access to the equipment. The publications comprised of 365 articles.

Strategic Research Equipment: In view of the launch of the Hydrogen Intensity and Real-time Analysis Experiment (HIRAX) telescope, from a grant awarded in 2019 from the Strategic Research Equipment (SRE) grant, and the progress made to date with the prototype development, the NRF issued a closed call to the University of KwaZulu-Natal (UKZN) as the lead institution, to submit a Phase 2 application for the HIRAX Telescope. An award of R35 million was approved in June 2020 with a budget split of R10 million; R20 million

and R5 million for the years 2020/21, 2021/22 and 2022/23 respectively.

Due to delays in the tender caused by COVID-19 pandemic, the R10 million awarded for 2020/21 could not be expensed within the financial year.

7.4 Programme 4: National Research Infrastructure Platforms (NRIP)

Overview

The NRF is mandated to provide leading-edge research infrastructure platforms in support of knowledge generation, innovation, science engagement and human capacity development, a responsibility led within the NRF by Programme 4. This is done in order to ensure that the national research enterprise has the requisite infrastructure to undertake globally competitive discovery science, train the next generation of researchers, support engagement with science by and with the public and promote innovation that positively impacts society, the environment and the economy.

Programme 4 creates the framework for the integration and the establishment of connectivity between the physical, process, systems, data and intellectual infrastructural capacities for the benefit of the national research enterprise. This is done to enable excellence and sustainability of the South African research enterprise by ensuring that it has the requisite research infrastructure.

The NRF provides access to a range of research infrastructure platforms, both locally and internationally, and hosts a number of National Research Facilities. The research infrastructure is of critical importance in contribution towards enhanced impact of the research enterprise.

The Programme, as a central locus for research infrastructure provision for the research enterprise by the NRF has the following operational objectives:

- Develop, support and maintain National Research Infrastructure Platforms across all science domains; including e-Infrastructures (e-Research & Data Platforms).
- Facilitate researcher access to world-class national and global research infrastructures.
- Coordinate and administer South Africa's participation in inter-governmental and multilateral research infrastructures.

- Promote and support research infrastructure networks and dialogues at national and global level.
- Develop and maintain frameworks for benchmarking National Research Infrastructure Platforms.
- Make available competitively accessed grants for the acquisition, upgrade or development of state-of-the-art research equipment to South African public research institutions, in such a way as to advance the platforms approach.
- Contribute to the growth of a representative research workforce by providing support to students and budding researchers in the form of access to research infrastructure platforms to conduct research; provision of academic and career supervision by researchers supported with resources allocated to and/or raised by NRIP as well as financial support in

the form of scholarships, cost of access to required local and international research platforms and related networks, allowances, etc.

- Contribute to a more scientifically literate and engaged society through facilitating access to research and science engagement infrastructure by the public.

Programme 4 is operationally organised into business units, each of which is a declared national research facility or is in the process of being declared as such. Each national facility consists of research platforms dedicated for use by researchers and for post graduate students. An overview of business units per science cluster are provided in Table 2.

Table 2: NRF's Portfolio of Research Infrastructure Platforms and National Facilities

Name of Research Infrastructure Platforms / National Research Facility	Science Domain / Discipline	NRF Cluster
iThemba Laboratory for Accelerator-based Sciences (iThemba LABS)	Nuclear Sciences	Nuclear Sciences
South African Environmental Observation Network (SAEON)	Long Term Ecological Monitoring	Biodiversity & Environmental Sciences
South African Institute for Aquatic Biodiversity (SAIAB)	Aquatic Biodiversity Science	Biodiversity & Environmental Sciences
South African Astronomical Observatory (SAAO)	Optical/infra-red Astronomy	Astronomy & Geodetic Sciences
South African Radio-Astronomy Observatory (SARAO)	Radio Astronomy	Astronomy & Geodetic Sciences

Progress against Programme 4 activities in contributing to the outcomes in the Strategy 2025

In addition to provisioning of research infrastructure to the research enterprise, the national facilities conduct research and produce internationally competitive research outputs.

Outcome 2: Enhanced Impact of the Research Enterprise

The outputs indicator target for the medium term period for this outcome is a proportion of peer reviewed publications produced by NRF supported authors as a percentage of the total of such publication by all South African authors, with a target of 41% amended to 35% effective from Q2 onwards. The researchers are supported by the NRF through varying methods, such as funding, research platform use, access to research data, etc. During the year under review achievement against the target is 31%. This is made up of a total of

655 publications from the national facilities. The total number of publications for the year is 8150. Highlights of research infrastructure projects and research outputs are outlined below.

Research infrastructure projects

Nuclear Science

SAIF Project: The procurement and delivery of a 70 MeV Cyclotron remains on track. The physical delivery of the Cyclotron itself remains forecast for calendar year-end during the months of November/December 2021. Onsite preparatory construction work has commenced to lay out the physical infrastructure to house the new 70 MeV Cyclotron. The installation of the 70 MeV Cyclotron, commissioning of which is anticipated in 2022/2023, is expected to ramp up the radioisotope production at iThemba LABS, with the concomitant increase in radiopharmaceuticals distribution and sales



while simultaneously freeing SSC (Separated Sector Cyclotron) beam time to be dedicated to subatomic physics research for generation of knowledge and postgraduate student training.

Technological Innovation Platform (TIP): The full implementation of this project will provide the facility an edge towards innovation TIP remains one of the four anchoring pillars of iThemba LABS Long Range Research Plan. The main TIP platform will be housed in the Cape where iThemba LABS' main operations are located. Preparations for procurement are underway.

GAMKA Project and Nitrogen Liquefier Project: The plant is due for commissioning during the month of April 2021, and will be capable of supplying up to 300L of liquid nitrogen per day for experimental research projects. As a strategic intervention to mitigate against intrinsic delivery shortcomings on the part of the liquid nitrogen (LN₂) supply service providers, the in-house liquefier will also provide significant cost savings in contrast to the current contract.

Disaster Recovery – Cloud Computing & Storage Proof-of-Concept: One of iThemba LABS' primary portfolio items is the production of new knowledge. The production of data is currently in the order of 50TB per year with an increase of 20% per year. Furthermore, a dramatic increase is expected within three years due to the implementation of a new accelerator facility, namely the South Africa Isotope Facility (SAIF). By the end of 2022, the annual data production is expected to be in the order of 200TB.

Astronomy

COVID-19: Following SARAO's recommendation to the Solidarity Fund, contracts for the manufacturing of 20,000 non-invasive ventilators were placed with various suppliers. Through SARAO's coordination efforts in the National Ventilator Project (NVP) all 20 000 units have been manufactured and the distribution of the non-invasive ventilators to health facilities nationally has started. Anecdotal feedback received indicates that these ventilators have saved lives.

MeerKAT Extension: An addendum to the MeerKAT Extension Agreement, between SARAO and the Max Planck Institute for Radio Astronomy, to include the Italian National Institute for Astrophysics as a partner was concluded. The MeerKAT Extension Infrastructure tender has been awarded following approval by the NRF

Board, and will add a further 20 receivers to the current 64 MeerKAT receivers.

Ghana Radio Astronomy Observatory (GRAO): As part of SARAO's participation in the DIRCO funded Africa Program, conclusion of negotiations between the Ghana Space Science Technology Institute (GSSTI) and a commercial satellite operator for the hosting of a satellite ground station at the GRAO has occurred. This will result in long term operational funding to support the GRAO.

The **MaxE project**, part of a portfolio of projects for enhancement of the technical capabilities of the SALT telescope, known as the SALT 1.5 Generation Projects, involves many engineers and astronomers from SAAO/SALT, as well as SARAO engineers. It passed the important milestone of CoDR earlier in the 2020/21 year. Major effort during 2020 was placed on defining the detailed project schedule, and a resource mapping complicated by the fact that many of the people needed are the same as in other high-priority SALT projects. The next major milestone for MaxE is the PDR which is scheduled for Nov 2021.

The second SALT Gen 1.5 project involves the conversion of the SAAO Sutherland observational plateau into an Intelligent Observatory. Highlights include new web interfaces to Lesedi and 1.9 million telescope, autoguider development, and work on an Instrument Selector port for the 1.9m, a project also involving collaboration with the Indian Institute of Astrophysics in Bangalore. A totally new remote observation operations room in Cape Town is approaching completion.

Finally, the third project toward making the SALT High Resolution Spectrograph's high-stability mode useful for Exoplanet studies set crucial milestones. The analysis of a calibration data set was successfully completed with encouraging preliminary results suggesting the instrument indeed is capable of at least a 1-3 m/s precision, or even better. This means that the upgrade to the Laser Frequency Comb (LFC) calibrator will be worthwhile, and indeed the SALT Board approved the purchase of an LFC during this latest reporting period. and the procurement of which is in the planning stages.

All these Strategic Instrumentation Initiative (SII) projects greatly benefit SAAO through an injection of cash and skills into instrumentation development, and are aimed to make SALT more attractive for new partners.

Environmental and Biodiversity

Two SARIR research infrastructures (EFTEON and SMCRI) hosted by SAEON are currently being implemented, with a third, the South African Polar Research Infrastructure awarded and to be implemented from 2021 onwards. The eventual integration of these into a single platform provides the opportunity to create holistic environmental research infrastructure of unparalleled size and scope. Similar research infrastructures of this size, incorporating a multitude of terrestrial and marine sites, have not been developed elsewhere in the world due to institutional legacies and boundaries. The combination of the three infrastructure projects would integrate research sites from the Limpopo River in the north to the SANAE 1V Base in Antarctica in the south, 6 000 km apart, and will fully exploit South Africa's geographic advantage. This will be highly attractive to the international earth system science community, and international funders. The first steps towards achieving this aspirational objective are to successfully establish the three individual SARIR research infrastructures and create an integrated administrative system for them.

The Department of Forestry, Fisheries & Environment (DFFE) and the DSI have been supported by SAEON

experts on a range of policy development topics such as the National Framework for Climate Services and Shale Gas Development. ULwazi node of SAEON released a portal for National Framework for Climate Services.

SAIAB's Coastal craft fleet has been re-arranged since the addition of the R/V Observer. The R/V uKwabelana and R/V Phakisa are now both based in Durban and will service Durban and Richards Bay areas. The R/V Observer is based in Port Elizabeth and will service Algoa Bay, East London and Mossel Bay as required.

SAIAB was part of a new project entitled "Harnessing Natural Product Diversity to Combat Multidrug Resistance" supported by the South African Medical Research Council (MRC) with funds received from the South African National Department of Health and the UK Medical Research Council. This project uses multiple marine and laboratory platforms which are unique to SAIAB within the NSI.

The ACEP Phuhlisa programme run by SAIAB reached another milestone in 2020 through securing funding from the DSI to develop four (4) new joint marine labs between SAIAB and the universities of Fort Hare the Western Cape, Zululand and Walter Sisulu University.

Figure 3: Thin threads connecting the lobes of radio galaxy ESO 137-006 observed with MeerKAT (Ramatsoku et al. 2020)

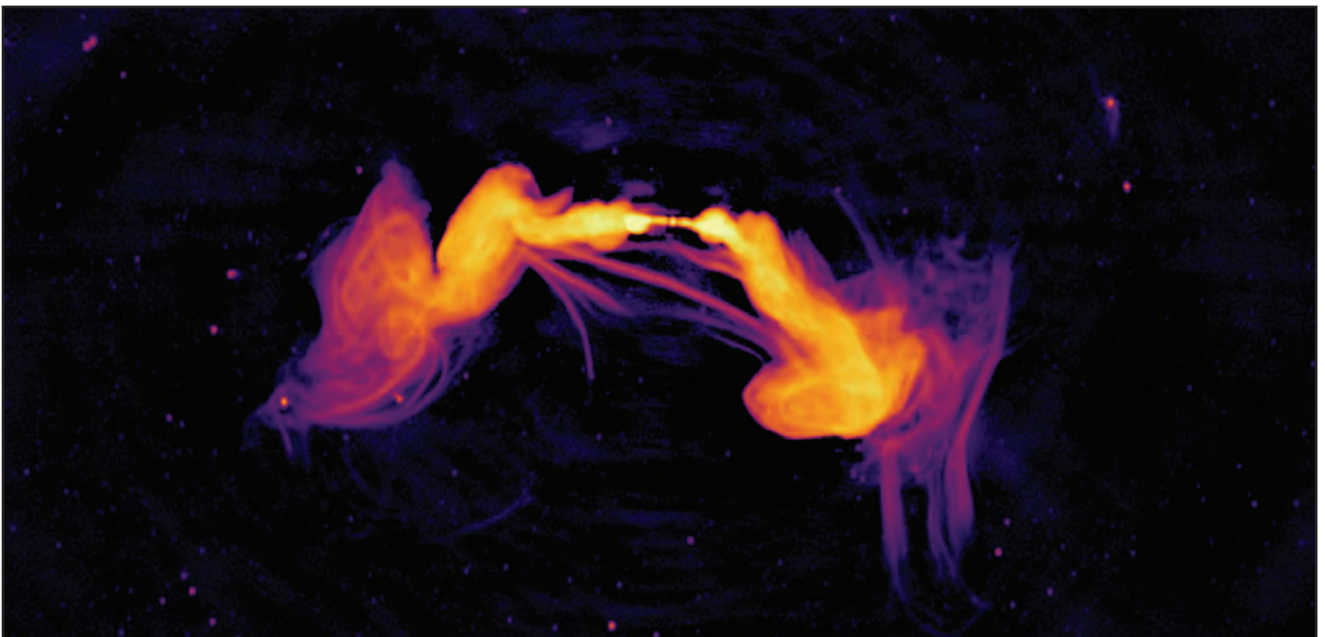




Figure 4: The image of galaxy PKS 2014-55, classified as 'X-shaped' and obtained with MeerKAT



Science

Astronomy

MeerKAT observations have been ramping up since its inauguration in 2018. The past year saw the deployment of the remaining telescope modes required to accomplish all eight Large Survey Projects approved many years prior. Overall, just over 50% of the hours of the year were spent doing science observations. In the meantime, researchers in South Africa and around the world have been analysing a variety of MeerKAT datasets and publishing results in professional literature. Below we highlight three noteworthy results (not possible with any other telescope) selected from the 31 refereed articles containing MeerKAT data published during April 2020 – March 2021.

New mystery: Unexpected filaments in radio galaxies

MeerKAT observations revealed features never before seen in radio galaxies: very collimated radio “threads” connecting the lobes of the galaxy (see Figure 1). Their cause is currently unknown, and a topic of further research. This result was published by Mpati Ramatsoku and collaborators in the journal *Astronomy & Astrophysics* (636, L1).

World record of pulsar timing accuracy

In a recent paper published in the *Monthly Notices of the Royal Astronomical Society* (502, 407), Parthasarathy et al. (2021) have demonstrated that MeerKAT can do pulsar timing measurements with an accuracy of 4 nanoseconds – a world record indicating

the extraordinary quality of the telescope and all its subsystems, and opening a large discovery space for pulsar timing science in years to come.

X-shaped galaxy: Mystery solved

Many galaxies far more active than the Milky Way have enormous twin jets of radio waves extending far into intergalactic space. Normally these go in opposite directions, coming from a massive black hole at the centre of the galaxy. However, a few are more complicated and appear to have four jets forming an 'X' on the sky. Exquisite new MeerKAT observations of one such galaxy, PKS 2014-55, show material "turning the corner" as it flows back towards the host galaxy (see Figure 3). These results were published in the Monthly Notices of the Royal Astronomical Society (495, 1271).

Biodiversity and Environmental Sciences

NRF provides research infrastructure platforms that support research outputs with a focus on understanding global change over South Africa's marine and terrestrial biomes; and marine and aquatic research that contributes to the sustainable use and economic development of Southern Africa's aquatic biodiversity. Covered thereby are fields such as the management of fisheries, coastal engineering, coastal erosion, invasive species; taxonomy; conservation; movement studies and marine spatial planning. Some of the most significant highlights from papers published in 2020 included the following:

- Floristic evidence for alternative biome states in tropical Africa" published by Aleman et al. in the Proceedings of the National Academy of Sciences (impact factor 9.4) reported on the distribution and determinants of grass-dominated versus forest ecosystems in sub-Saharan Africa. It was the result of an international collaboration, including SAEON, and made use of vegetation data collected from sites across the continent to model the distribution of the major key biomes of Africa. It is likely to make a

significant contribution to the field of systems ecology, in terms of understanding the determinants of these biomes and predicting the impacts of global change on them, as well as informing large-scale restoration efforts such as the UN Decade of Restoration.

- Taxonomy forms the basis of all aquatic biodiversity science and, in 2020/21, SAIAB's historical strength in taxonomy resulted in significant advances in this field with the description of numerous new fish, frog and diatom species. In terms of key global comparative studies, the publication highlights were: "The global status and conservation status of reef sharks" (Nature); "The effects of climate and land-use changes on fish catches across lakes at a global scale" (Nature Communications); A global analysis of complexity-biodiversity relationships on marine artificial structures (Global ecology and Biogeography). SAIAB also published a number of key papers that will have uptake in the policy and resource management sectors; these included: "Line fish resilience in the Anthropocene"; "The National Wetland map – An improved spatial extent and representation of inland aquatic and estuarine ecosystems in South Africa"; "Ten research questions to support the South African inland Fisheries Policy"; "A socioecological systems approach towards future research for the restoration, conservation and management of Southern African estuaries". The management of invasive fish in South African freshwaters is a national priority and SAIAB's contributions included papers on the eradication of common carp; monitoring the introduction of silver carp and developing key tools to estimate the impact of invasive fish.

Outcomes, Outputs, Output Indicators, Targets and Actual Achievements

The table on the next page is used for a report against the original Annual Performance Plan tabled on 15 March 2020 until re-tabling of amended APP tabled on 31 July 2020. The actual achievement reported is as at the end of quarter 1 of 2020/21 financial year. The report for the full year is provided in Table 4.

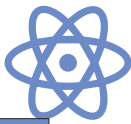


Table 3: Performance against targets in the original APP tabled on 15 March 2020 before the tabling of Addendum amending the APP

Strategic Outcome	Output	Output Indicator	Programme	Audited Actual Performance 2018/2019	Audited Actual Performance 2019/2020	Planned Annual Target 2020/2021	Actual Achievement 2020/2021 Until Date of Re-tabling	Deviation from Planned target to Actual Achievement 2020/2021	Reasons for Deviations	Reasons for Revisions to the Outputs / Output indicators / Annual Targets	
A transformed (internationally competitive and sustainable) research workforce	A transformed profile of NRF funded postgraduate students	Profile of NRF funded post-graduate students	Black	Prog. 3	*	*	80%	73%	-7%	The uptake of students continues throughout the academic year	Disruption of the academic year and subsequent budget cuts were anticipated to impact the number of new bursaries.
			Women	Prog. 3	*	*	57%	58%	1%	The uptake of students continues throughout the academic year	
	A transformed profile of NRF funded researchers	Profile of NRF funded researchers	Black	Prog. 3	*	*	42%	40.1%	-1.9%	The uptake of research takes place throughout the academic year	Disruption of the academic year and subsequent budget cuts were anticipated to impact the number of new research grants.
			Women	Prog. 3	*	*	41%	41.1%	0.1%		
Enhanced impact of the research enterprise	Knowledge produced by NRF supported researchers	Proportion of peer-reviewed publications produced by NRF supported researchers relative to the number of peer-reviewed publications produced by all researchers in the NSI	Prog. 3 & Prog. 4	*	*	41%	The actual achievement as at quarter 1 of 2020/21 was not reported as reporting on the indicator is done on an annual basis. The report for the full year is provided in Table 4below.		Disruption of operations and budgets cuts resulted in temporary moratorium on recruitment.		
Enhanced impact of science engagement (SE)	A fit-for-purpose capability for science engagement and engaged research	Proportion of investment in science engagement	Prog. 2	*	*	3.5%					
A transformed organisation that lives its culture and values	A transformed leadership and management cohort	Proportion of employees from designated groups at Peromnes levels 1-7	Black	Prog. 1	*	*				47%	
			Women	Prog. 1	*	*				28%	
	Predictable and sustainable resourcing of the NRF mandate	Organisation overheads as a proportion of total expenditure	Prog. 1	7.5%	7.7%	<10%					No change was made.

Note: * The APP for 2020/21 is the first in the 5 year MTSF period starting in 2020/21 for which a new Strategic Plan was developed and new indicators that were not previously audited were introduced.

Table 4: Performance against targets in the amendment to the APP for 2020/21 (the Addendum to APP)

Strategic Outcome	Output	Output Indicator	Programme	Audited Actual Performance 2018/2019	Audited Actual Performance 2019/2020	Planned Annual Target 2020/2021	Actual Achievement 2020/2021 Until Date of Re-tabling	Calculation of the Actual Achievement 2020/21	Deviation from planned target to Actual Achievement 2020/2021	Reasons for deviations	
A transformed (internationally competitive and sustainable) research workforce	A transformed profile of NRF funded postgraduate students	Profile of NRF funded post-graduate students	Black	Prog. 3	*	*	75%	79%	8 721 ÷ 11 093	4%	Targeted communication to students ensured timeous uptake of grants.
			Women	Prog. 3	*	*	57%	58%	6 389 ÷ 11 093	1%	
	A transformed profile of NRF funded researchers	Profile of NRF funded researchers	Black	Prog. 3	*	*	40%	49%	1 455 ÷ 3 000	9%	Funding decisions were aligned with the organisation drive for transformation of the research enterprise.
			Women	Prog. 3	*	*	41%	44%	1 320 ÷ 3 000	3%	
Enhanced impact of the research enterprise	Knowledge produced by NRF supported researchers	Proportion of peer-reviewed publications produced by NRF supported researchers relative to the number of peer-reviewed publications produced by all researchers in the NSI	Prog. 3 & Prog. 4	*	*	35%	31%	8 150 ÷ 26 336	-4%	The number of researchers funded by the NRF have reduced over the last two years resulting in fewer publications emanating from NRF supported researchers.	
Enhanced impact of science engagement (SE)	A fit-for-purpose capability for science engagement and engaged research	Proportion of investment in science engagement	Prog. 2	*	*	2.1%	2.5%	R 89.352 m ÷ R 3 577.177 m	0.4%	More activities were redesigned for delivery through alternative channels away from those that have high risks to the COVID-19 pandemic.	
A transformed organisation that lives its culture and values	A transformed leadership and management cohort	Proportion of employees from designated groups at Peromnes levels 1-7	Black	Prog. 1	*	*	46%	47%	168 ÷ 355	1%	Insignificant change in the employment level during the year under review.
			Women	Prog. 1	*	*	28%	27%	97 ÷ 355	-1%	Staff turnover and recruitment activity low due to the impact of COVID-19 and the NRF's moratorium on filling of staff vacancies.
	Predictable and sustainable resourcing of the NRF mandate	Organisation overheads as a proportion of total expenditure	Prog. 1	7.5%	7.7%	<10%	9.5%	R 339 m ÷ R 3 577 m	0%	The target was achieved due to implementation of cost containment measures although various costs used in the determination of overheads are fixed.	

Note: * The APP for 2020/21 is the first in the 5 year MTSF period starting in 2020/21 for which a new Strategic Plan was developed and new indicators that were not previously audited were introduced.



7.6 Strategy to Overcome Areas of Under Performance

The actual achievements for all targets for all output indicators are with reasonable range of variance that does not require design and implementation of a corrective strategy.

7.7 Reporting on the Institutional Response to the COVID-19 Pandemic

Table 5: Progress on the Organisation’s Response to the COVID-19 Pandemic

Programme	Intervention	Geographic location (Province/ District/local municipality) (Where Possible)	No. of Beneficiaries (Where Possible)	Disaggregation of Beneficiaries (Where Possible)	Total Budget Allocation per Intervention (R'000)	Budget spent per Intervention	Contribution to the Outputs in the APP (where applicable)	Immediate Outcomes
Programme 1	Wellness Programme in response to COVID-19 (as part of the Employee Assistance Programme)	Eastern Cape Gauteng Western Cape KwaZulu Natal Northern Cape	All NRF staff	N/A	0.00	Spent as part of the overall wellness contract budget (R 483 051.06)	Not applicable	Employee Assistance Programme consisting of Psychosocial Support, Legal and Financial Advice using telephone counselling and face to face counselling.
	Provision of PPE (cloth/surgical face masks, gloves/over coats/hand sanitizer) to all staff as required	Western Cape, Northern Cape, KZN; Eastern Cape, Limpopo; Gauteng	All staff	N/A	0.00	R 1 534 265.94	Not applicable	Reduced risk of COVID-19 transmission.
Programme 2	Organisational Compliance to COVID-19 Regulations and Workplace Preparedness	Didacta Building City of Tshwane Gauteng	63	Male: 29 Female: 34 African: 52 White: 7 Coloured: 3 Indian: 1	0.00	R263 375.00 (Business Unit Budget)	Not applicable	Compliance to regulatory requirements and reduced risk of COVID-19 transmission.
Programme 3	COVID-19 Africa Rapid Grant Fund	Regional (Africa) National (South Africa)	Regional 75 Total 41 Research Strand 5 Science Advice Strand 29 Science Journalism Strand South Africa 15 Total 6 Research 2 Science Advice 7 Science Journalism	Regional Total 34 Female Total 41 Male South Africa SA 7 Female SA 8 Male	Regional Research: \$3 899 186,77 Science Advice: \$249 064,83 Science Journalism: \$511 665,05 Total: \$ 4 659 916,65 South Africa Research: \$571 009,29 Science Advice: \$99 712,33 Science Journalism: \$134 125,00 Total: \$804 846,62	Expenditure yet to be realised in 2021/22	Profile of NRF funded researchers	The immediate outcomes will be reported on in August 2021. The first reporting cycle of the projects is 31 August 2021.

Programme 3	Extension support funding to additional postgraduate students that could not be funded due to budget constraints	National	108	42% South Africa 22% Black 51% Female 57% Doctoral 43% Masters	R 9,080 000	R 9 010 000	Profile of NRF funded post-graduate students	Enable masters and doctoral students to complete their degrees successfully in 2021. Additionally, uptake of awards will only be reported in the next reporting cycle.
Programme 4	Supplied the Sutherland clinic with PPE and generic medical supplies	Sutherland Community Health Clinic Karoo Hoogland Municipality	N/A	N/A	N/A	R 42 000.00	N/A	To assist the shortfall of medical and PPE to medical staff during COVID-19.
	Provision of PPE to local municipalities in the SKA impact area	Northern Cape Province - Namakwa district, Kareeberg Local Municipality	N/A	N/A	N/A	R 5 000.00	N/A	PPE provided to members of local communities.
	Provision of PPE (cloth face masks) to local community	Western Cape	200	N/A	Funded from cost recovery	R 52 900.00	N/A	N/A
	Provision of food parcels to indigent families in the SKA impact area	Northern Cape Province - Namakwa district, Kareeberg Local Municipality	140 households	N/A	N/A	R 25 000.00	N/A	Food parcels provided to families in need.
	Perimeter Security Patrol contract (hard lockdown)	Western Cape	Six (6) temporary jobs created	6 new jobs created	Funded from cost recovery	R 229 026.60	N/A	N/A
	Donated 200 iTL branded cloth masks to the community	Western Cape	200	Community members	Funded from cost recovery	R 5 290.00	N/A	N/A
	Provided 4660 litres of ethanol	Rhodes University Pharmacy Department Sarah Baartman	Department of Health	N/A	Was not budgeted for but funded through savings in other areas.	R 95 176.00	N/A	Helped with reducing the risk of COVID-19 spreading to frontline medical staff and patients.
	COVID-19 South African Dashboard by Wits and iThemba LABS	Cyberspace Platform: Joint initiative Wits (Gauteng) and iThemba LABS (Western Cape)	Global, African Continent, National Department of Health	International Community at large benefits in monitoring South African Covid-19 Statistics	iThemba LABS contribution in the form of joint appointment of staff member leading the project		N/A	Continues to assist in the monitoring and almost real-time broadcasting of South African Covid-19 statistical data.



During the course of 2020/2021, and in addition to activities listed in the table above, the NRF implemented the following interventions in response to COVID-19 pandemic:

- In April 2020, the Minister for Trade and Industry appointed SARAO to coordinate and project manage the National Ventilator Project (NPV) to effectively respond to the COVID-19 pandemic. The Solidarity Fund provisioned R250 million for the design and manufacture of 20 000 ventilators for distribution to various health facilities across South Africa to support the national COVID-19 response. Over a period of seven (7) months, SARAO successfully managed the requirements specification, design, procurement and quality assurance for the manufacture of 20 000 CPAP (Continuous Positive Air Pressure) ventilators at an average cost of R12 500 per ventilator. Approximately 4 000 person-hours was contributed by SARAO to the project.
 - SARAO established a screening centre in the Carnarvon information centre in the Northern Cape, for screening of local staff and community members to continue providing assistance to local SMMEs and communities.
- SAASTA implemented several interventions which were focussed on creating awareness of the pandemic mainly as follows:
 - o COVID-19 Public Awareness Campaigns:
 - Virtual festival themed “Celebrating Health” hosted by SAASTA that focused on the higher recovery rate of the COVID-19 pandemic
 - SAASTA in collaboration with Media Development and Diversity Agency placed 32 intern journalists at community media houses across the country where they communicated science including the COVID19 pandemic in African languages.
 - o COVID-19 Learner and Educator Support:
 - Educational resources were distributed to schools to support educators and learners returning to school after the lockdown period.
 - Several educational workshops, science communication training initiatives, science promotion and awareness events moved to online platforms in order to continue to engage various public audiences.

8. FINANCIAL OVERVIEW

COVID-19 necessitated a change in the way the NRF has pursued the implementation of its programmes for the period under review due to the revision of its funding allocation and with the aim of achieving a breakeven financial position at year end. This was realised through various interventions which had a direct impact on the level of research and infrastructure activities across all NRF business units due to the budget cuts and reprioritisations, a temporary moratorium on filling of staff vacancies, deferment of certain projects, lower sales revenues from isotopes due to international flight embargoes and reduced activity levels due to lockdown restrictions, especially at Higher Education Institutions which has a direct bearing on the performance of the NRF.

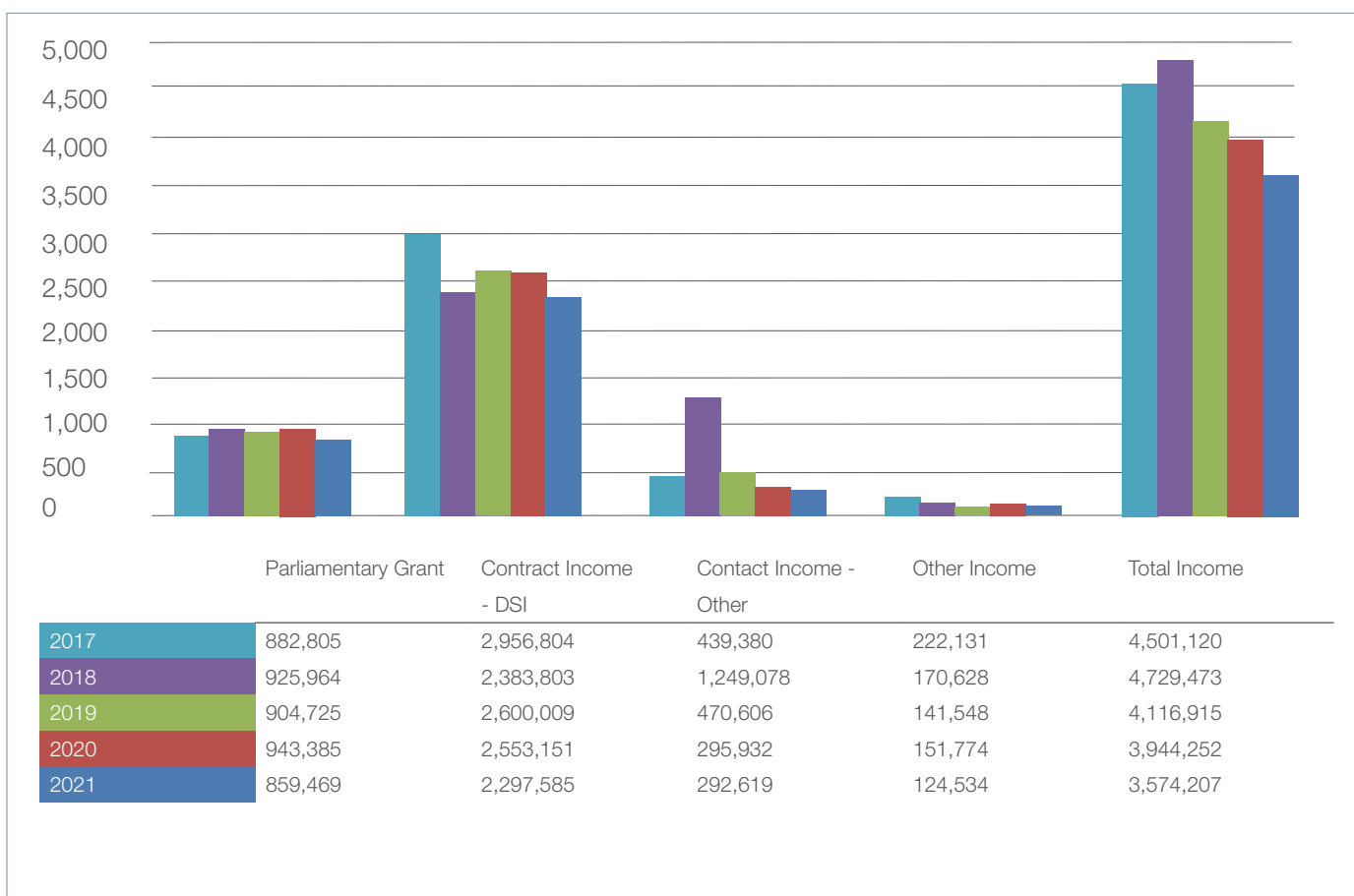
The NRF's financial performance and position are provided in the Annual Financial Statements for 2020/21. The section below provides a brief analytical overview.

8.1 Income Sources

The NRF has three primary income streams, and one other source of income, as follows:

- **Parliamentary grant:** The MTEF parliamentary grant is utilised primarily to fund the programmes and operational activities of the NRF;
- **DSI contract funding:** Ring-fenced funding is received from the DSI to fund specific projects and directed programmes, and thus funding can only be utilised for such;
- **Other contract income:** Contract income represents formal contracts with other government departments and entities as well as private and international organisations. Such funds can only be utilised according to objectives laid down by the respective sponsors as per formal contractual agreements; and
- **Other income:** Represents interest received on funds invested and trading income.

Figure 5: NRF income trend





NRF total income decreased by 9% from R3 944 million in 2019/20 to R3 574 million in 2020/21. Details of the income trends are highlighted in Figure 1.

Income trend

Parliamentary Grant (PG) decreased by 8.9% from R943 million to R859 million in 2020/21, due to an overall 10% COVID-19 budget cut imposed through an adjustment budget early in July 2020 to reprioritise funding and resources towards emergency measures in mitigation of the pandemic.

DSI contract funding decreased by 10% from R 2 553 million in 2019/20 to R 2 298 million in 2020/21. The DSI contract funding budget cuts of 23% due to the COVID-19 pandemic was largely absorbed by carried forward funding of R 662 million from the prior financial year on projects that were in progress. Cuts related to SARAO of R324 million due to the lag time and lockdown impact on the roll-out of infrastructure. Other areas affected by the budget cuts were the Human Resource Development and Science Engagement contracts amounting to R 254 million and R 42 million respectively. The decrease in DSI contract funding is partially due to the NEP programme funding of R 160 million being received every second year resulting in fluctuations year-on-year. The balance relates to decreased activities with regards to the grants take up, the deployment on the MeerKAT extension, iThemba Labs SAIF project and SARIR infrastructure spending due to the impact of the pandemic as well as delays in the fibre tender by

SANREN. These areas of delayed spending affected the contract carried forward negatively.

Other contract income decreased from R 296 million in 2019/20 to R 293 million in 2020/21. No major change occurred, and none was expected for this funding stream.

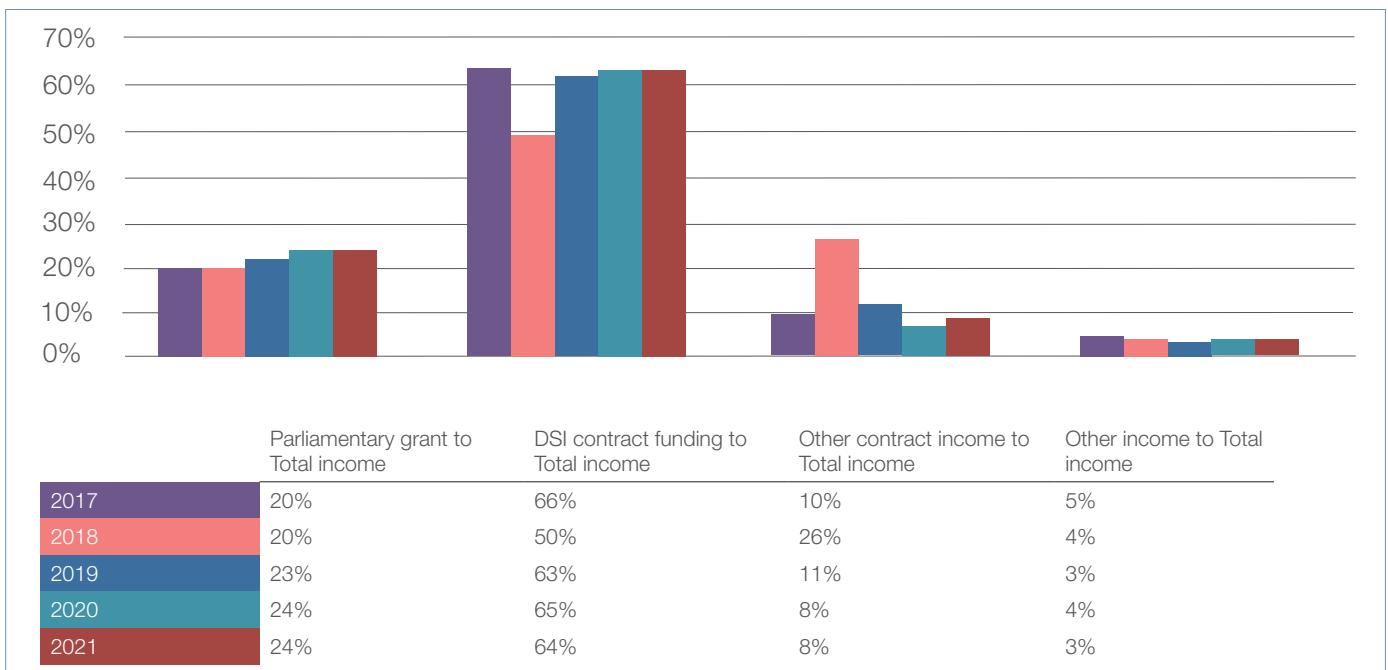
Other income decreased by 18% mainly due to decreased isotope export sales to the international market at iThemba LABS. This was because of limitations on demand and distribution restrictions on international flights brought upon by COVID-19. In addition, interest earned reduced because of lower cash-holdings and the significant decrease in the prime interest rate.

The overall NRF income is largely dominated by contract funding, with corresponding expenditure dependant on when the actual expense is incurred or when investment in infrastructure is capitalised.

Income ratios

The income ratios presented in Figure 6 reflects a level trend in all categories of income. The pro-rata portion of all income streams remained stable in comparison to the previous financial year. The 2018 figures were higher than normal due to the carry forward of 2017 DSI contract income on projects that were in progress, mainly relating to SKA project (R200 million), SARChI (R220 million) and the NEP (R75 million). The 2019 figures reflected a significant reduction in the carried forward amounts from 2018 as these funds were spent as roll-out was ramped up.

Figure 6: NRF income ratios



Income per Business Unit

The total income split per business unit is shown in Table 6.

Table 6: Income split per Business Unit

Programme	Business Division	2020/21 R'000	2019/20 R'000
1	Corporate Support	99 686	157 147
2	South African Agency for Science and Technology Advancement	65 799	90 675
3	Research and Innovation Support and Advancement	2 290 333	2 546 339
4	iThemba Laboratory for Accelerator Based Sciences	284 490	298 620
4	South African Institute for Aquatic Biodiversity	37 516	39 662
4	South African Environmental Observation Network	74 701	100 505
4	South African Astronomical Observatory	112 268	104 659
4	South African Radio Astronomy Observatory	609 414	606 645
Total		3 574 207	3 944 252

Revenue collection

Sources of revenue	2020/21			2019/20		
	Estimate	Actual Amount Collected	Over/(Under) Collection	Estimate	Actual Amount Collected	Over/(Under) Collection
	R'000	R'000	R'000	R'000	R'000	R'000
Parliamentary grant	869 487	859 469	(10 018)	943 385	943 385	-
DSI contract income	2 785 712	2 297 585	(488 127)	3 099 429	2 553 161	(546 268)
Other contract income	309 982	292 619	(17 363)	334 534	295 932	(38 602)
Sales revenue	68 664	69 788	1 124	66 546	82 148	15 602
Interest received	36 229	35 398	(831)	30 025	58 475	28 450
Other income	3 618	19 348	15 730	4 683	11 151	6 468
Total	4 073 692	3 574 207	(499 485)	4 478 602	3 944 252	(534 350)

Total income is lower than budget by R 499 million in 2020/21 mainly due to contract funding revenue which is aligned to deliverables with corresponding expenditure accounted for in the respective year in which the expenditure is incurred. NRF income is largely dominated by contract funding (72% in 2020/21), which fluctuates year-on-year depending on the level of activity and is not entirely within the control of NRF as it is largely dependent on state appropriations and contract sponsors. DSI contract income decreased due to the negative impact of the COVID-19 and the uptake and lag time in actual spend of awarded grants as the pandemic disrupted research activities at academic institutions and NRF national research facilities. Key projects affected at national facilities included the MeerKAT extension and fibre tender rollout by SANREN at SARAO and the SAIF-project at iThemba LABS.

The Parliamentary Grant was reduced further by R10m during Adjusted Estimates of National Expenditure process in October 2020. The key area where revenue

collection is managed by the NRF is on non-core revenue pertaining to sales revenue from isotopes, interest received and other sundry income. With a minimal fluctuation in sales revenue and interest received, other income increased mainly due to an insurance claim settlement for business interruption on the production of isotopes and the inclusion of foreign exchange gains on procurement transactions.

8.2 Expenditure

Expenditure trend

The NRF expenditure trends (depicted in Figure 3) largely mirrors the level of income. The decrease of 8.3% in total expenditure from R3 913 million in 2019/20 to R3 587 million in 2020/21, is mainly attributable to significantly lower grants and bursaries expenditure as well as operating expenditure in the current financial year, all directly related to the impact of COVID-19 on the operations of the NRF.



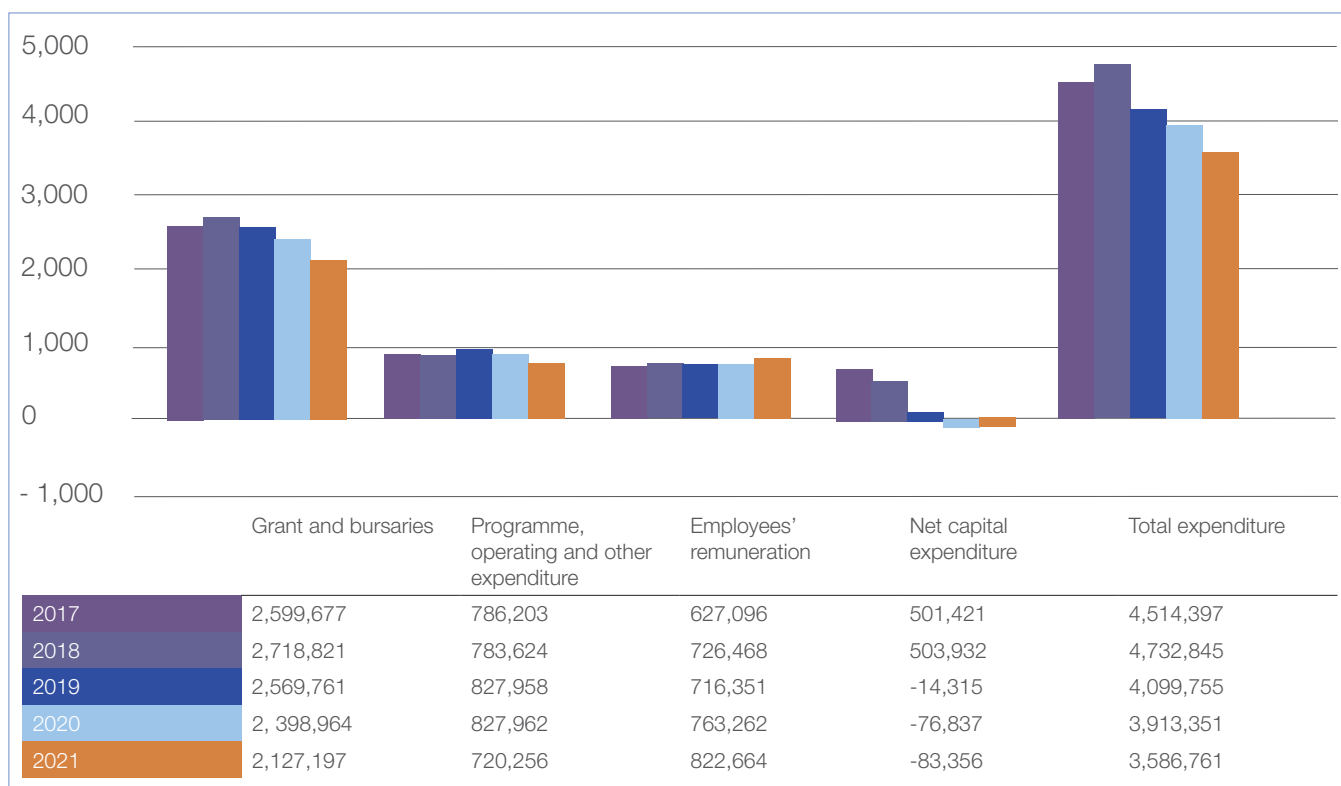
Operating expenditure decreased by 13% from R828 million to R720million, mainly due the overall curtailments in travel, subsistence, accommodation, and conferences attributed to the pandemic and related travel restrictions.

Decreased research funding expenditure of 11%, from R2 399 million to R2 127 million, is attributed mainly to RISA grant awards not taken up and spending lags due to the extension of the COVID-19 lockdown within DSI funded contracts, namely Bursaries and Scholarships (R42 million), Thuthuka (R25 million), Competitive and established researcher grants (R47 million), international projects (R28 million) and Strategic Science Missions (R62 million).

The employees' remuneration increased due to a general salary bill movement, which averaged 5.5% as well as a 28% increase in leave accrued to employees which will be adjusted in June 2021 in alignment with the NRF leave cycle.

Capital expenditure remained at the same level as the prior year, however, the original estimates was far higher than the actual result. Estimated capital expenditure was reduced in the adjusted budget due to the impact of lockdown on the SAIF project construction works at iThemba LABS, the Isotope production target prototype manufacturing only commencing in April 2021, as well as the delay in the MeerKAT extension and fibre tender execution by SANREN at SARAO.

Figure 7: Major expenditure trends per category of expense



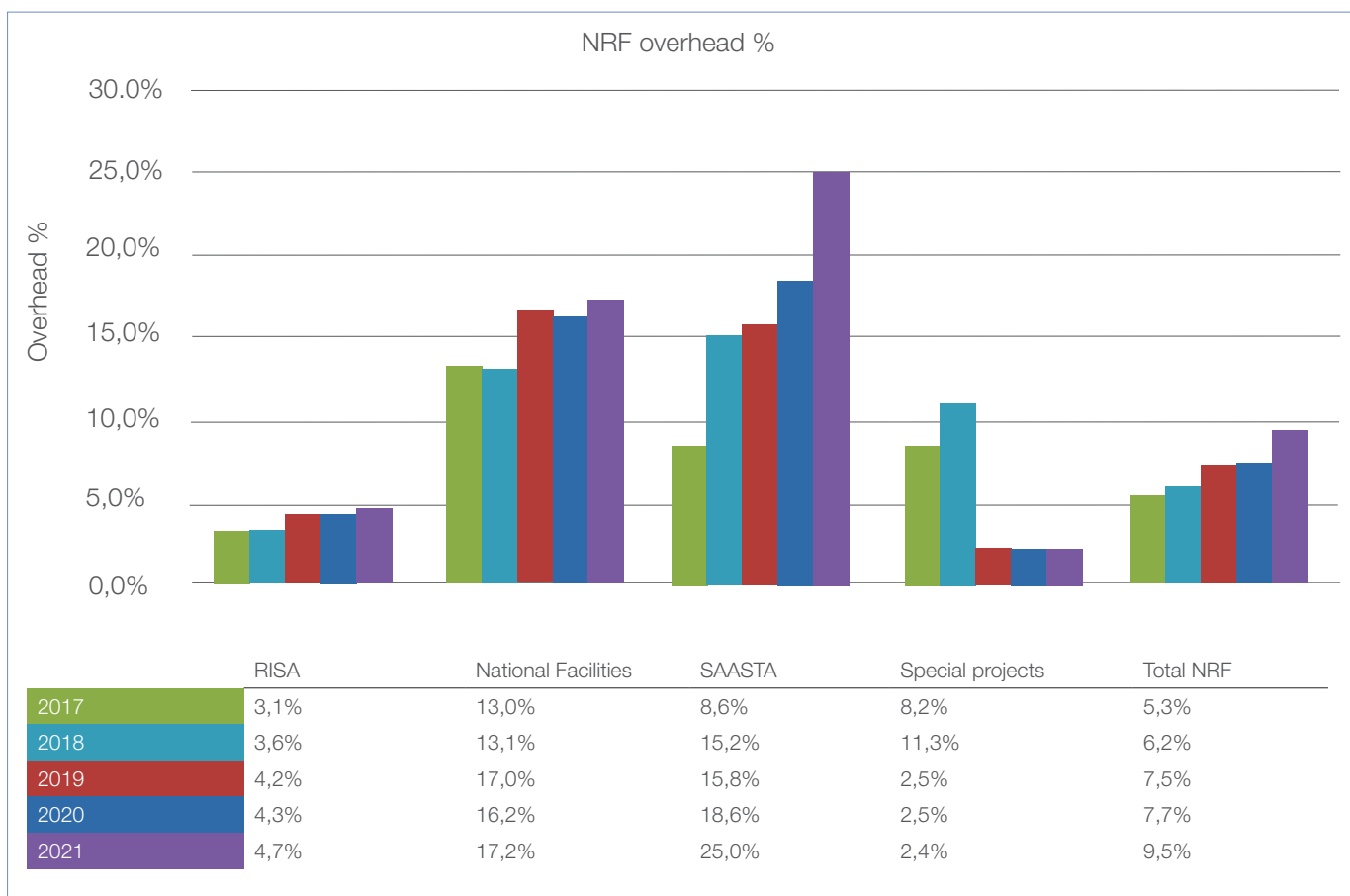
Expenditure per Business Unit

The expenditure (including capital expenditure) per NRF business division is presented in Table 7.

Table 7: Expenditure per Business Unit

Programme	Business Division	2020/21 R'000	2019/20 R'000
1	Corporate Support	127 877	143 758
2	South African Agency for Science and Technology Advancement	67 635	97 515
3	Research and Innovation Support and Advancement	2 228 499	2 454 235
4	iThemba Laboratory for Accelerator Based Sciences	300 642	313 014
4	South African Institute for Aquatic Biodiversity	51 382	76 558
4	South African Environmental Observation Network	76 717	92 429
4	South African Astronomical Observatory	134 945	139 586
4	South African Radio Astronomy Observatory	599 064	596 256
Total expenditure		3 586 761	3 913 351

Figure 8: NRF overhead ratio



**Included in the above distribution is the corporate overhead of 2.4%.

Overhead Expenditure

The focus on ensuring operational and financial sustainability through improved cost management due to economic pressures and austerity measures, has resulted in greater emphasis being placed on the management of overheads and shared services, which has remained below 10%. The overhead %, however, increased by 1.8% from 7.7% in 2019/20 to 9.5% in 2020/21. COVID-19 had a direct reduced impact on the level of operational, research and infrastructure activities across all NRF business units, thereby resulting in a stable fixed cost with a corresponding increase in the overall indirect costs thus increasing this ratio.

The consolidated overheads figure, on a multi-year basis, remains within international benchmarks for similar research and innovation organisations. The overhead ratio is reflected in Figure 8.

Remuneration Expenditure

The NRF's highly technical and unique world-class

infrastructure necessitates labour-intensive infrastructure programmes, which infrastructure acts as a catalyst within the National System of Innovation. The numerous initiatives aimed at enhancing development, necessitate a specialist human resource capacity which is insourced.

The ratio of remuneration to total expenditure of the NRF moved slightly beyond the benchmark of 22% set by the NRF Board, at 22.9% due to a reduction in total expenditure as explained above. The ratio of each programme is in line with the level of operational activity performed by each programme. The National Research Facilities has the highest ratio of remuneration expenditure due to its largely specialised labour-intensive research and technical maintenance staff to develop and maintain research infrastructure platforms used by both local and international researchers. Salary cost is largely fixed, therefore the movement in overall expenditure influences the remuneration ratio directly. The ratio of remuneration to total expenditure per entity segments is disclosed in Figure 6.



Approximately 96% of grant expenditure of the NRF is managed by RISA (Figure 6). Within RISA, research funding expenditure reduced by 11% compared to 2019/20, mainly due to the take-up of grants being delayed as the pandemic disrupted academic and research activities (refer Expenditure section). Programme and operating expenditure increased by 26%, mainly due to access fees to global infrastructure,

which was previously classified under grant expenditure. Excluding this re-allocation, the operating expenditure decreased by 18%, mainly due to the curtailment of local and international travel activities. Salaries increased by 7.6%, mainly due to an annual inflationary adjustment and an increase in the leave provision. RISA has contained salaries and operating expenditure to 10% of total grants and bursaries expenditure – a reduction of 3% compared to prior year.

Figure 9: Remuneration expenditure

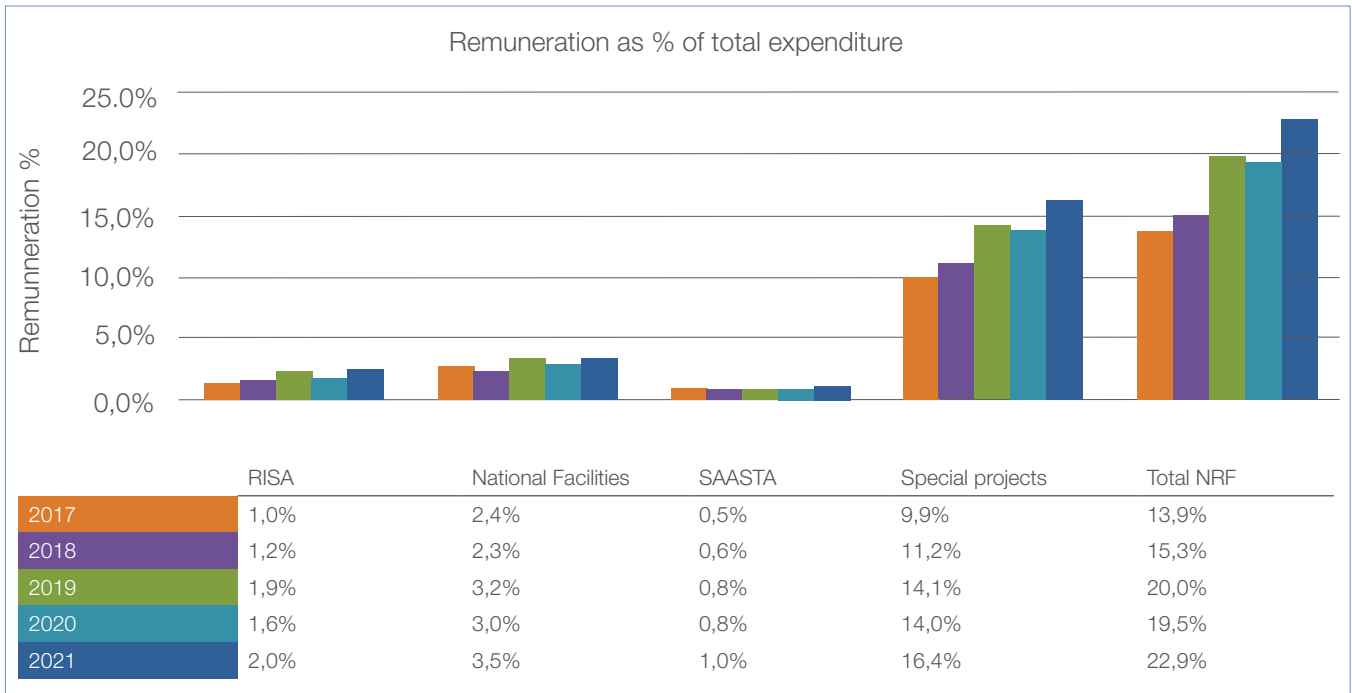


Figure 10: RISA grant expenditure



Asset management

The entity is organised in seven decentralised business units across the country, with each unit being responsible for their own asset management plan, guided by centralised policies and available resources. For the year under review no new major infrastructure projects were added, however the three major projects of MeerKAT extension construction contracts and fibre roll-out at SARAO and the Isotope Production Target Station and the Cyclotron manufacture for the SAIF project was in progress. The NRF invests most of its fixed asset resources towards research equipment, mainly at its national facilities. These high-end research platforms serve as the extension of research infrastructure for the higher education institutions thereby providing access to researchers, students and the public. The investment in upkeep and maintenance of infrastructure at the national facilities have been sub-optimal due to financial constraints for several years and more recently the impact of the pandemic. Despite this, the NRF has managed to ensure normal repairs and maintenance

were carried out during 2020/21 to the value of R25 million (R 32 million in 2019/20). This equates to a ratio of 1% spent on the repairs and maintenance of fixed assets whilst a norm of up to 10% is regarded as acceptable considering the high value and scientific nature of assets to ensure relevance and world-class research.

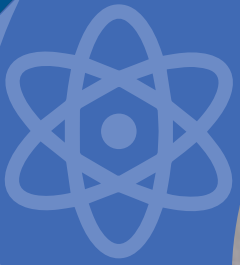
The asset sustainability ratio, however, decreased slightly from 0.73 in 2019/20 to 0.71 in 2019/20. The ratio has been deteriorating over the past 5 years. Assets are therefore replaced at a rate similar to that of depreciation with a normal asset sustainability ratio at 1%. The ratio is expected to increase from 2021/22 onwards as new infrastructure projects are undertaken. Asset holdings will follow a similar trend.

8.3 NRF Five-Year Financial Trend

The five-year financial review as at 31 March 2021 provides a summary of financial trends for the period between 2016/17 and 2020/21 (refer Table 5).

Table 8: NRF five-year financial trend

Financial Indicators	2017 R'000	2018 R'000	2019 R'000	2020 R'000	2021 R'000
Income & Expenditure					
Total Income	4 501 120	4 729 473	4 116 915	3 944 252	3 574 207
Total Expenditure	4 514 397	4 732 845	4 099 755	3 913 351	3 586 761
Statement of financial position					
Current Assets	1 998 576	1 534 182	1 843 244	1 782 032	1 705 023
Current Liabilities	1 941 962	1 478 813	1 784 254	1 785 302	1 707 822
Total Assets	4 246 710	4 239 371	4 504 050	4 459 162	4 285 771
Ratio Analysis					
Current Ratio	103	1.04	1.03	1.00	1.00
Employees and interns					
Number of Permanent Employees	1 444	1 485	1 219	1 270	1 237





PART C: GOVERNANCE

ACCOUNTING AUTHORITY NRF BOARD



Dr Nompumelelo Obokoh
Chairperson of NRF Board



Dr Fulufhelo Nelwamondo
Chief Executive Officer



Prof Sarah Mosoetsa
Chairperson Remuneration & HR Comm and
Member of Procurement Comm



Dr Bongani Ngqulunga
Member of Audit & Risk Comm



Ms Mpho Letlape
Member of Remuneration & HR Comm



Prof Saurabh Sinha
Chairperson of Research Development Comm
and Member of Remuneration & HR Comm



Prof Haroon Borhat
Member of Audit & Risk Comm



Prof Tinyiko Maluleke
Member of Research Development Comm



Prof Refilwe Phaswana-Mafuya
Member of Research Development Comm



Ms Claire Busetti
Chairperson of Procurement Committee
and Member of Audit & Risk Comm



Prof Nomalanga Mkhize
Member of Remuneration & HR Comm



Prof Glenda Gray
Member of Research Development Committee



Mr Ronny Lubisi
Chairperson of Audit & Risk Comm and
Member of Procurement Comm



Prof Nadine Petersen
Member of Research Development Comm



9. INTRODUCTION

The governance structures of the National Research Foundation (NRF) consist of systems and processes that assist the NRF to be directed, controlled and held accountable. Legislation such as the NRF Act (Act 23 of 1998), the Public Finance Management Act (PFMA) (Act 1 of 1999), as amended, and the South African Companies Act(SACA) (Act 71 of 2008), contributes to the compliance requirements of the entity, as do various national and departmental frameworks, instructions and policies. In addition, the NRF also applies leading governance practices by adhering to the requirements in the King Report on Corporate Governance for South Africa (King IV).

The NRF is accountable to Parliament through the Parliamentary Portfolio Committee (PPC) on Higher Education, Science and Technology (HEST). The Minister of Higher Education, Science and Innovation is the Executive Authority in terms of the PFMA, and the Accounting Authority is the NRF Board.

10. PORTFOLIO COMMITTEES

The Parliamentary Portfolio Committee (PPC) on Higher Education, Science and Technology (HEST) of the National Assembly processes legislation and conducts oversight concerning the work of the NRF. During the 2019/20 financial year, the NRF Board and the NRF Corporate Executive Committee interacted with the PPC on HEST to allow the PPC to exercise oversight over the planning and performance of the organisation through the following:

- NRF Annual Report (AR) 2019/20 was tabled in Parliament and presented to the PPC.
- NRF Annual Performance Plan (APP) 2021/22 was presented to the Minister of DHEST and tabled in Parliament.
- The organisation also responded to five parliamentary questions during the 2020/21 financial year.

11. EXECUTIVE AUTHORITY

Below is the list of the reports and plans submitted to the Executive Authority during the 2020/21 financial year.

Accountability Report	Date of submission
Annual Report 2019/20	31 September 2020
Tabling in Parliament	30 October 2020
APP 2021/22 -2023/24	19 February 2021
Tabling in Parliament	15 March 2021
First Quarterly report 2020/21	Submission to DSI – 05 August 2020
Second Quarterly report 2020/21	Submission to DSI – 29 October 2020
Third Quarterly Report 2020/21	Submission to DSI– 20 January 2021
Fourth Quarterly report 2020/21	Submission to DST– 29 May 2021

12. THE ACCOUNTING AUTHORITY/THE BOARD

Introduction

The NRF Board is appointed by the Minister of Higher Education, Science and Technology in terms of Section 6 of the National Research Foundation (NRF) Act (Act 23 of 1998 as amended). The role of the Board is to govern the organisation through the discharge of its fiduciary responsibilities in relation to strategy, policy approval, oversight and accountability such that the good governance outcomes of an ethical culture, good performance, effective control and legitimacy with stakeholders are achieved by the organisation in line with the NRF mandate

The NRF Board exercises its roles in terms of section 50 of the Public Finance Management Act (PFMA) (Act 1 of 1999 as amended), whereby the accounting authority of a public entity must:

- Exercise the duty of utmost care to ensure reasonable protection of the assets and records of the public entity;
- Act with fidelity, honesty, integrity and in the best interest of the public entity in managing the financial affairs of the public entity;
- On request, disclose to the executive authority (the Department of Science and Innovation) (DSI) responsible for that public entity, all material facts including those reasonably discoverable, which in any way may influence the decisions or actions of the executive authority of that legislature; and seek within the sphere of influence of that accounting authority, to prevent any prejudice to the financial interests of the state.

The role of the Board

Within the functions, and powers conferred on the Board, and its committees by the NRF Act, the PFMA and the Companies Act, the Board is required to:

- Retain full and effective control and provide effective and ethical leadership in the best interest of the NRF;
- Inform and set the strategic direction of the NRF and ensure that strategy, risk, performance and sustainability considerations are effectively integrated and appropriately balanced;
- Determine and set the tone and support the NRF values in order to ensure the principles of an ethical culture, and the requirements of being a responsible corporate citizen;
- Bring independent, informed and effective judgment to bear on material decisions of the NRF including material policies, the framework for the delegation of authorities, the framework of Corporate Governance, and the

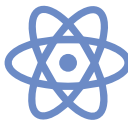
- appointment of the Chief Executive Officer (CEO) and Corporate Executive Committee members.
- e. Satisfy itself that the NRF is governed effectively in accordance with corporate governance best practices, appropriate and relevant non-binding rules, codes and standards and internal control systems to:
 - Maximise returns;
 - Increase sustainability;
 - Safeguard the people, assets and reputation of the NRF; and
 - Ensure an effective control environment and compliance with applicable laws and regulations.
 - f. Ensure robust and effective oversight through:
 - The appropriate constitution of Board committees;
 - The relationship and discourse with executive management in implementing the strategies, decisions, values and policies; and
 - The effective approach to governance, integrated reporting, risk management and combined assurance.
 - g. Ensure that the organisation has appropriately constituted and effective Board committees as required by the PFMA, the Companies Act, and recommended best corporate governance practice;
 - h. Ensure that there is an effective risk based internal audit;
 - i. Ensure the integrity of the statutory reports developed in line with the PFMA which includes reporting on the effectiveness of the system of internal controls;
 - j. Through the NRF executive management, acting in accordance with the powers determined by the Board, the Board will:
 - Give effect to the mandate, objectives and purpose of the NRF with regard to the resources and instruments available;
 - Assess the extent to which the mandate and objectives of the NRF are met by the operational activities of the organisation paying attention to the effectiveness, efficiency and success of the strategies and operations pursued by the NRF in meeting its mandate and objectives;
 - Determine the strategy to achieve the NRF's purpose and implement NRF values;
 - Retain full and effective control over the NRF and monitor and evaluate management in their implementation of Board-approved plans, policies, business plans, management performance criteria and strategies;
 - Define levels of materiality, reserving specific power to itself and delegating other matters with necessary written authority to management. These matters should be monitored and evaluated by the Board on a regular basis;
 - Approve the NRF Annual Financial Statements (AFS);
 - Approve the NRF Annual Performance Report (APR) and the related Key Performance Indicators before submission to the Department of Science & Innovation (DSI);
 - Review the updated NRF strategic risk register on an annual basis;
 - Approve comprehensive NRF human resource development strategies and plans;
 - Approve the NRF plans for information and communication technology and systems. As Information and Communication Technologies (ICTs) play an integral part of the business of the NRF, the Board is responsible for the governance of these ICTs. More specifically, the Board should ensure that ICT is aligned with the performance and sustainability objectives of the NRF and therefore should monitor ICT investment and expenditure; and
 - Ensure that the independent institutional review of the NRF, using a method approved by the DSI and the NRF Board, takes place in a published cycle of every five years unless agreed otherwise by the DSI.
 - In line with section 72(4) of the Companies Act, read together with regulation 43 of the Companies Regulations, the NRF Board must ensure the implementation of the legal requirements and prevailing codes of best practice and standards with regard to social and ethical responsibilities.

Board Charter

The NRF Board has developed and approved a Board Charter which is intended to provide a concise overview of:

- The delineation of the roles, functions, responsibilities and powers of the Board;
- The delegation of authority to the various board committees of the NRF;
- The matters reserved for final decision-making or pre-approval by the Board;
- The policies and rules of procedures of the board in respect of matters such as corporate governance, declarations and conflicts of interest, board meetings documentation, induction, training and evaluation of directors and members of Board committees.

The Charter is reviewed annually in March to ensure its ongoing relevance and to have an updated guiding Charter in place at the commencement of the new financial year annually on 01 April. The Board is compliant in respect of alignment with the NRF Board Charter.



Composition of the Board

As at 31 March 2021, the NRF Board was constituted as set out below.

Table 9: Board members as at 31 March 2021

Name	Designation (in terms of the Public Entity Board structure)	Date Appointed	Date Resigned	Qualifications	Area of Expertise	Board Directorships (List the entities)	Other Committees or Task Teams (e.g.: Audit committee / Ministerial task team)	No. of Meetings attended
Dr Nompumelelo Obokoh	Chairperson NRF Board	01 October 2018	Term ends 30 September 2022	1. PhD Cambridge University, UK; 2. MSc (Plant Biotechnology; UP) (cum laude); 3. BSc Honours (Microbiology, UP); 4. BSc (Biochemistry & Microbiology, UniZulu)	1. Plant Biotechnology/ Molecular Biology; 2. Agricultural Biotech Research, Development & Advocacy; 3. Biotech Policy Advocacy; Intellectual Property for SMMEs	1. Mulabo Business Enterprise, Board member. 2. Fruit Mzansi Africa NPC t/a Fruit SA, Board member. 3. Langace (PTY) Ltd; Managing Director; 4. Serella NPC, Board member	1. Fourth Industrial Revolution Presidential Commission	4 NRF Board Meetings; 1 NRF CEO Interviews
Prof Haroon Borhat	Board member; Member of Audit & Risk Committee	01 October 2018	Term ends 30 September 2022	1. PhD – Economics Stellenbosch University	1. Economics 2. Labour Economics: Poverty, Inequality & Inclusive Growth 3. Minimum Wages, Income Distribution, & Development Economics	1. Growth Grid Venture Capital Partners (RF) (Pty) Ltd, Board member; 2. Sygnia Asset Management (RF) (Pty) Ltd- Board member; 3. Sygnia Collective Investments (RF) (Pty) Ltd- Board member; 4. Sygnia Itrix (RF) (Pty) Ltd- Board member; 5. Sygnia Life Limited- Board member; 6. Sygnia Limited- Board member; 7. Sygnia Nominees (RF) (Pty) Ltd- Board member; 8. Silk Road Investments- Board member; 9. Creditworx- Board member; 10. Norman Bissett & Associates Group- Board member; 11. Nimble Collection Services - Board member; and 12. Nimble Group- Board member.	1. Member of President's Economic Advisory Council (PEAC); 2. South African Research Chairs (SARChI) and Centres of Excellence (CoEs) in Economic and Financial Sciences; 3. Contribution to addressing the COVID -19 Pandemic; 4. Post-COVID Economy Commission (Set up by the Minister of Telecommunications); and 5. NRF Executive Evaluation Committee (ECC).	2 NRF Board Meetings; 1 Audit & Risk Committee Meeting; 1 NRF CEO Interviews

Ms Claire Busetti [National Advisory Council on Innovation (NACI) representative on NRF Board]	1. Board member; 2. Chairperson of the Procurement Committee; 3. Member of Audit & Risk Committee.	01 April 2017	2nd Term ends 30 September 2022	1. Masters in Business Administration – University of Witwatersrand	1. Investment Banking. 2. Private Equity & Project Finance. 3. Small Innovative and Business Support	1. National Advisory Council on Innovation –Board member, 2. Special Economic Zones Advisory Board, 3. Spartan SME Finance Limited-Board member, 4. Debswana Pension Fund-Board member, 5. Advisory Board of SIMODiSA 6. Advisor to Ariya Bridge Capital (Pty) Ltd; and 7. Board member of Business Partners International East Africa LLC.	1. Heading up NACI's Sovereign Innovation Fund working group. 2. Small Innovative Business Support	3 NRF Board Meetings; 4 Audit & Risk Committee Meetings; 5 Procurement Committee Meetings; 1 NRF CEO Interviews
Prof Glenda Gray	1. Board member; 2. Member of Research Development Committee	01 October 2018	Term ends 30 September 2022	1. MBBCH - University of Witwatersrand 2. FCPAED (SA) - College of Medicine, South Africa 3. DSc (honoris causa, SFU); 4. Doctor of Law (honoris causa, Rhodes University)	1. Medical Scientist, 2. HIV vaccinology, 3. AMR, paediatric infections, clinical research, 4. SAMRC public entity R&D, 5. Clinical product development	1. Member of SAMRC Board; 2. Director of HCRISA; 3. Vice Chair: Orange Babies; 4. South Africa Board Member: GARPD; 5. Audit & Risk Committee member: UCT	1. Wits University Council COVID-19 Ministerial Advisory Committee [MAC]	4 NRF Board Meetings; 2 Research Development Committee Meetings; 1 NRF CEO Interviews
Mrs Mpho Letlape	1. Board member; 2. Member of Remuneration & HR Committee	01 March 2015	2nd Term ends 30 September 2022	1. BSc Computer Science and Psychology – Fort Hare University	1. Procurement Governance Strategy Development, Philanthropy, Transformation and Socio Economic 2. STEM Education, Information Systems, Human Resources, General Management, 3. Development, Management and Leadership, Stakeholder Relations, Project Management	1. Transnet SOC Ltd –Board member; 2. The Standard Bank Tutuwa-Community Foundation (NPC) – Board Chair; 3. Lethushaneng Advisory Services; 4. Lethushane (Pty) Ltd – Director and Chairman; 5. Tower Group Recruitment - Director; 6. Vinton Holdings Empowerment Trust (Trustee); 7. SA Women in Dialogue [Trustee]; 8. Africa Harm Reduction Alliance; and 9. Food Forward South Africa – Board member	None	4 NRF Board Meetings; 5 Remuneration & HR Committee Meeting; 1 NRF CEO Interviews
Mr Ronny Lubisi	1. Board member; 2. Chairperson of the Audit & Risk Committee; 3. Member of the Procurement Committee	01 October 2014	2nd Term ends 30 September 2022	B Comm – Accounting - University of South Africa B Compt Honours - University of Zululand Chartered Accountant [SA] - South African Institute of Chartered Accountants and Public Accounts and Auditors Board	1. Accounting; 2. Auditing: - Internal Auditing. - External Auditing - Forensic Auditing 3. Taxation, Governance and Ethics	1. Jungle Babies Shop; 2. MRL Human Capital; 3. MRL Auditing Services; 4. MRL Development & Project; 5. MRL Electrical & Consulting; 6. Siyaraga Accounting Services; and 7. Ulwazi Consulting (Pty) Ltd	None	4 NRF Board Meetings; 4 Audit & Risk Committee Meetings; 5 Procurement Committee Meetings; 1 NRF CEO Interviews



Prof Tinyiko Maluleke	1. Board member; 2. Member of Research Development Committee	01 October 2014	2nd Term ends 30 September 2022	PhD - Black Theology and History of Christianity in South Africa – University of South Africa	1. Theology; 2. Higher Education Management; 3. African Politics, 4. Media, Literature and Culture, 5. Religion and Politics	1. MTN SA Foundation-Board member	None	4 NRF Board Meetings; 2 Research Development Committee Meetings; 4 Procurement Committee Meetings; 1 NRF CEO Interviews
Prof Nomalanga Mkhize	1. Board member; 2. Member of Remuneration & HR Committee	01 October 2018	Term ends 30 September 2022	PhD, Sociology-University of Cape Town	1. Historical studies and Sociology, 2. Historiography; 3. Indigenous Historical Forms and Vernacular Writing; 4. Land Reform; 5. Urbanisation; and 6. Sociology of Space	1. Phaphamani Children’s Literature-Board member	Ministerial Task Team for History	3 NRF Board Meetings; 5 Remuneration & HR Committee Meetings; 1 NRF CEO Interviews
Prof Sarah Mosoetsa	1. Board member; 2. Chairperson of the Remuneration & HR Committee; 3. Member of the Procurement Committee	01 October 2014	2nd Term ends 30 September 2022	PhD, Sociology – University of Witwatersrand	1. Public Sector/ Higher Education management Unemployment, 2. Employment, Poverty & Inequality	1. University of the Witwatersrand-[Chair and member of the Global Labour University] ; 2. University of Venda [Council Member] 3. Society, and Inequality Centre, [Member] 4. Global Labour Union, [Member]	1. Department of Higher Education and Training Task Team Member; 2. Department of Labour [Minimum Wage Commissioner]	4 NRF Board Meetings; 5 Remuneration & HR Committee Meetings; 2 Procurement Committee Meetings; 1 NRF CEO Interviews
Dr Bongani Ngqulunga	1. Board member; 2. Member of Audit & Risk Committee	01 October 2018	Term ends 30 September 2022	1. PhD, Sociology – Brown University, USA	1. Sociology of Race, 2. Intellectual and Political History and Biography, 3. Public Governance	None	None	4 NRF Board Meetings 4 Audit & Risk Committee Meetings; 1 NRF CEO Interviews

Prof Refilwe Phaswana-Mafuya [Council on Higher Education (CHE) representative on NRF Board]	1. Board member; 2. Member of Research Development Committee	01 April 2019	Term ends 30 September 2022	1. PhD, (Injury Prevention), University of the North 2. MSc Epi (Dually trained in Epidemiology and Social Sciences)	1. Epidemiology, 2. Public Health and Behavioural Sciences; 3. Epidemiological Research; 4. Public Health Sciences; 5. Social Sciences; 6. Higher Education Management and Governance; 7. Research Leadership and Management; 8. Research Capacity Building; 9. Science engagement; 10. Science Activism; 11. Building Science Networks, partnerships and alliances.	1. Academy of Science South Africa (ASSAf) Council Member; 2. Higher Health Board Member; 3. USAF Research and Innovation Strategy Group; 4. German Research Foundation International Panel on Infectiology; 5. Zaliomax Close Corporation trading as Paradiso Guest House; 6. Adventist Development Relief Agency (NPO) Board Member	None	4 NRF Board Meetings; 1 Research Development Committee Meetings; 1 NRF CEO Interviews
Prof Nadine Petersen	1. Board member; 2. Member of Research Development Committee	01 October 2018	Term ends 30 September 2022	1. PhD (Higher and Teacher education) (University of Johannesburg); 2. Med (Adult and Higher Education Education) cum laude (RAU); 3. BED Honours (Adult and Community Education) cum laude (RAU); 4. BA Ed (UNISA) HED (RCE)	1. Teacher Education; 2. Higher education management; 3. Higher Education and Training; 4. Adult and Community Education	None	None	4 NRF Board Meetings; 2 Research Development Committee Meetings; 1. NRF CEO Interviews
Prof Saurabh Sinha	1. Board member; 2. Chairperson of the Research Development Committee; 3. Member Remuneration & HR Committee	01 October 2018	Term ends 30 September 2022	Academic 1. PhD(Eng) MEng (Microelectronics) (cum laude) – University of Pretoria 2. BEng(Electronic) (cum laude) – University of Pretoria Professional: 1. Pr Eng, 2. FSAAE, 3. FSAIEE, 4. FIEEE, 5. MASSAf	1. Engineering; 2. Electronic Engineering; 3. Microelectronics	1. Board of Director and Chair, Resolution Circle (Pty) Ltd; 2. Board of Director, UJ Invnt (Pty) Ltd; 3. Chair of the Board, Gauteng City Regional Observatory (GCRO) (unincorporated organisation) Previous Board membership: 1. eyeThenticate (Pty) Ltd; 2. Photovoltaic Technology Intellectual Property (Pty) Ltd; 3. The Metropolitan Trading Company (Pty) Ltd	None	3 NRF Board Meetings; 4 Remuneration & HR Committee Meetings; 2 Research Development Committee Meetings. 1 NRF CEO Interviews



Table 10: Board Committee meetings 01 April 2020 to 31 March 2021

Committee	No. of meetings held	No. of members	Name of members
Audit & Risk Committee	5	4	Mr Ronny Lubisi [Chairperson] Prof Haroon Bhorat Ms Claire Busetti Dr Bongani Ngqulunga
Remuneration & HR Committee	3	4	Prof Sarah Mosoetsa [Chairperson] Mrs Mpho Letlape Prof Nomalanga Mkhize Prof Saurabh Sinha
Procurement Committee	4	4	Ms Claire Busetti [Chairperson] Mr Ronny Lubisi Prof Sarah Mosoetsa Prof Tinyiko Maluleke
Research Development Committee	3	5	Prof Saurabh Sinha [Chairperson] Prof Glenda Gray Prof Tinyiko Maluleke Prof Refilwe Phaswana-Mafuya Prof Nadine Petersen
NRF Board	4 Board meetings 1 NRF CEO Interviews	14	As per “Composition of the Board”

Remuneration of Board Members

The NRF Board was classified as an A1 Board by the Minister of Finance in 2013, hence, members of the NRF Board are remunerated in accordance with the guidelines issued annually by National Treasury, based on attendance of Board and sub-committee meetings.

The following members of the NRF Board do not qualify for remuneration from the NRF as they are government employees:

- Prof Sarah Mosoetsa (NRF Board member and Chairperson of the Remuneration & HR Committee)
- Prof Glenda Gray (NRF Board member and member of the Research Development Committee)

All NRF Board related travel expenses are booked and paid for by the NRF. Members of the NRF Board are reimbursed for unexpected travel expenses that may have been incurred while travelling on NRF Board related business.

Table 11: Remuneration of Board members (2020/21)

Name	Remuneration [Gross Before PAYE]	Other allowances	Other re-imbursements	Total
Dr Nompumelelo Obokoh	R 9 806.00	Nil	Nil	R 9 806.00
Prof Haroon Bhorat	R 11 660.00	Nil	Nil	R 11 660.00
Ms Claire Busetti	R 27 702.00	Nil	Nil	R 27 702.00
Mrs Mpho Letlape	R 26 244.00	Nil	Nil	R 26 244.00
Mr Ronny Lubisi	R 32 377.38	Nil	Nil	R 32 377.38
Prof Tinyiko Maluleke	R 14 580.00	Nil	Nil	R 14 580.00
Prof Nomalanga Mkhize	R 16 038.00	Nil	Nil	R 16 038.00
Dr Bongani Ngqulunga	R 20 408.00	Nil	Nil	R 20 408.00
Prof Refilwe Phaswana-Mafuya [Joined 01 April 2019]	R 11 564.00	Nil	Nil	R 11 664.60
Prof Nadine Petersen	R 17 496.00	Nil	Nil	R 17 496.00
Prof Saurabh Sinha	R 30 618.00	Nil	Nil	R 30 618.00
Prof Sarah Mosoetsa	Public office bearer hence does not qualify for honorarium			
Prof Glenda Gray	Public office bearer hence does not qualify for honorarium			
Prof Z Vilakazi Resigned 07 October 2020 from the Board	Nil	Nil	Nil	Nil

13. RISK MANAGEMENT

The NRF follows a balanced approach to Enterprise Risk Management (ERM) in the pursuit of achieving strategic objectives, while safe-guarding the interests of the organisation's stakeholders. The ERM programme thus aims to achieve an appropriate balance between opportunities realised for gain, while minimising adverse impacts. The NRF ERM Policy provides necessary statement of intent and describes the roles and responsibilities of key players in managing risk.

The NRF ERM Framework considers King IV and the ISO31000 risk management standard in assessing both strategic and operational risks. It provides a common 'risk language' and risk appetite of the organisation. The implementation of the ERM Framework contributes to:

- Identifying, managing and monitoring enterprise risks proactively to minimise losses and disruption to the NRF.
- Promoting and embedding a risk-conscious culture and behaviour throughout the NRF.
- Integrating risk into the internal audit methodology so that internal audit becomes risk based.

General activities include risk identification, evaluation, prioritisation, treatment, monitoring, reporting and integration in decision-making and key business processes. Risk owners are assigned to each risk to ensure mitigation strategies are deployed.

The ERM committee advises management on the overall system of risk management. The risk review and mitigation progress is monitored by the Corporate Executive Committee, the Audit and Risk Committee and the Board. The Audit and Risk Committee independently monitors the effectiveness of the system of risk management. While the board has ultimate responsibility for risk management, the Audit and Risk Committee provides objective oversight of risk management and makes recommendations to the board for its consideration and approval. All risks are uploaded to the ERM and Compliance system to ensure monitoring of mitigation plans.

During the financial year, the operational and strategic risk registers of the organisation were reviewed as required. Operational risks are managed on an ongoing basis and all business units report on critical operational risks as part of the quarterly reporting cycle. To ensure continuous

improvement in the risk management process, risk ownership has been enhanced by formally appointing risk champions to embed risk management within their area of operations. Risk management training is conducted for risk champions to build capacity and enhance risk advisory at an operational level.

14. INTERNAL AUDIT

The NRF Internal Audit function is an independent, objective assurance and consulting activity designed to add value and improve the organisation's operations. The organisation has adopted a limited co-sourced internal audit resource model. The organisation implements this decision through a partnership between the in-house internal audit function and a panel of internal audit service providers.

The NRF Internal Audit function is functionally reporting to the Audit and Risk Committee of the Board to preserve its independence. The role, authority and status of the function is documented in its Charter and approved by the Audit and Risk Committee.

The internal audit function of the organisation is governed by The Institute of Internal Auditors' mandatory guidance including the Definition of Internal Auditing, the Code of Ethics, and the International Standards for the Professional Practice of Internal Auditing (Standards). This mandatory guidance constitutes principles of the fundamental requirements for the professional practice of internal auditing and for evaluating the effectiveness of the internal audit activity's performance.

The role of the Internal Audit function is to review and report on the adequacy and effectiveness of the system of internal controls as designed and implemented to ensure that:

- There is compliance with policies, standards, procedures, instructions, the code of ethics and applicable laws and regulations.
- Strategic objectives of the organisation are achieved.
- Financial and non-financial reports are accurate and reliable.
- Business operates efficiently and effectively.
- Assets of the organisation are safeguarded.

During the financial year, the risk based internal audit plans covered high risk areas of the organisation as per the risk universe. The following assurance activities were



undertaken and concluded as per the approved audit plans:

- Governance Reviews.
- Performance Audits.
- ICT Audits.
- Project Assurance Reviews.
- Due diligence Reviews.
- Financial Audits.

Based on the audit reviews performed during the year, the system of internal controls in the organisation is assessed as generally sound with a room for improvement.

In order to ensure efficient coverage, a combined assurance approach to the system of Internal Controls is adopted. Internal Audit is committed to work with all other assurance providers, as far as possible, to avoid duplication of audit effort, prevent omission of crucial business activities and align as far as possible so as to create the opportunity for external audit (Auditor General) to place reliance on the work of Internal Audit.

15. AUDIT COMMITTEE

The Accounting Authority (the National Research Foundation Board) must ensure that it has and maintains a system of internal audit under the control and direction of an Audit Committee complying with and operating in

accordance with regulations and instructions prescribed in terms of Section 76 of the PFMA.

The Board has resolved to establish a sub-committee, the ARC (the Committee) of the NRF Board, to assist the Board in its performance of duties and operate according to the terms of reference spelled out in this document, which outlines its role, responsibilities, composition and operating guidelines.

The role of the Committee is to provide independent assurance and assistance to the Board with regard to financial management, performance management, internal and external audit, governance including IT governance, internal controls, and risk management. The Committee does not replace established management's responsibilities and delegations. The Committee will provide the Board with prompt and constructive reports on its findings, especially when issues are identified that could present a material risk to the NRF.

The Committee is accountable to the Board for the exercise of its responsibilities. The Committee will, at all times, recognise that the primary responsibility for management and operations of the NRF rests with the CEO in terms of NRF Act (section 11, NRF Act 23 of 1998, as amended) and the Corporate Executive Committee in terms of the NRF Act (section 9, NRF Act 23 of 1998, as amended).

Table 12: Audit committee members as at 31 March 2021

Name	Qualifications	Internal or external	If internal, position in the public entity	Date appointed	Date resigned	No. of Meetings attended
Mr Ronny Lubisi [Chairperson of the Audit & Risk Committee]	B Comm – Accounting – University of South Africa B Compt Honours – University of Zululand Chartered Accountant [SA] – South African Institute of Chartered Accountants and Public Accounts and Auditors Board	External / non-executive Board member	n/a	01 October 2014	2nd Term ends 30 September 2022	4
Prof Haroon Borhat	PhD[Economics] Stellenbosch University	External / non-executive Board member	n/a	01 October 2018	Term ends 30 September 2022	1
Ms Claire Buseti	Masters of Business Administration – University of Witwatersrand	External / non-executive Board member	n/a	01 April 2017	2nd Term ends 30 September 2022	4
Dr Bongani Ngqulunga	PhD, Sociology – Brown University, USA	External / non-executive Board member	n/a	01 October 2018	Term ends 30 September 2022	4

16. COMPLIANCE WITH LAWS AND REGULATIONS

The NRF recognises that systems of good governance should be in place and be reviewed continuously to ensure that they are sound and consistent with world-class standards, and that they remain relevant to the business. Apart from complying with the provisions of the National Research Foundation Act (as amended), the PFMA, as well as the Treasury Regulations issued thereunder, and all other applicable legislation, the NRF also promote adherence with the relevant provisions of the King IV.

The NRF uses a priority compliance listing that identifies applicable pieces of legislation, regulations and codes of best practice. This list has been incorporated into the ERM and Compliance system to be monitored and updated continuously. Given the importance of complying with the ever-increasing domain of regulatory requirements, and the increased national and international emphasis placed on regulatory supervision, specialised assurance providers, the Corporate Executive Committee and the Board continue to monitor, align and adhere to compliance requirements.

The absence of a structured compliance function within the NRF has been defined as a shortcoming in the organisational support resource offering. Elements of compliance are distributed across various operational areas to meet strategy or value proposition. The resourcing of the centrally structured compliance oversight role has been approved by the Corporate Executive Committee and recruitment is in process.

17. FRAUD AND CORRUPTION

The NRF has a zero-tolerance approach to fraud and corruption. The NRF's fraud and corruption methodology enables the organisation to identify and mitigate the occurrence of fraud and corruption through risk assessment and compliance checks. These are performed organisation-wide on an annual basis and help to identify potential high-risk areas of fraud, corruption and unethical behaviour. A pre-populated risk and control framework template for fraud risk self-assessments are used for this exercise. The NRF has an all-encompassing policy entitled 'The Prevention, Detection and Resolution of Fraud and Corruption' that includes a Fraud Prevention Plan. Management ensures adequacy of controls to

prevent, detect, and mitigate the fraud risk in focus areas. The NRF subscribes to the National Anti-Corruption Hotline (NACH), administrated by the Public Service Commission (PSC), which ensures that all allegations of fraud and corruption cases are confidentially disclosed and appropriately reported. The hotline is available 24 hours a day, seven days a week and call centre agents can converse in all official languages. Staff awareness of this facility is promoted through posters, the intranet and the awareness programme undertaken to all staff. Over the period various fraud awareness communiques were provided. Additionally staff are also able to report via their line manager or Human Resource representatives.

The Anti-fraud, Anti-corruption and Anti-SCM Abuse Committee (AFCS) ensures that all reports from all available channels are investigated in line with policy and turnaround times. Depending on the outcome of investigations and based on the recommendations of the oversight committee, issues raised are reported to the CEO, the Audit and Risk Committee and the NRF Board for consideration and appropriate action.

18. MINIMISING CONFLICT OF INTEREST

On an annual basis, SCM Practitioners are required to complete a declaration of interest. In addition, all SCM Committees (Bid Specification, Bid Specification Advisory, Bid Evaluation and Bid Adjudication), members are required to declare any interest they might have either in writing or verbal. The verbal declaration forms part of the official written, documented minutes. Depending on the nature of the Conflict of Interest (Organisation/ Functional/ Financial), the conflicted member must recuse himself/herself from the deliberation of the matter at hand.

19. CODE OF CONDUCT

The lead section of the NRF's Consolidated Human Resources Policies and Procedures is the Code of Ethics, Values and Business Conduct ("the Code") which underpins these HR Policies and Procedures, including the Disciplinary Procedure. Compliance with the Code is compulsory for all employees of the NRF, irrespective of the nature and duration of employment. To some extent, the Code also applies to customers, suppliers and others acting on behalf of, or dealing with the NRF.

Any breach of Code and conduct prohibited by NRF policy, the law or the Constitution of South Africa, or which is not in line with the NRF values as articulated in



the Code, even if it were done on the NRF employee's behalf by someone who was not an NRF employee, constitutes misconduct.

Where such misconduct or a breach of the Code is suspected, it is subjected to an investigation, which will determine whether a disciplinary inquiry is to be instituted in terms of the NRF Disciplinary Code. Should management determine that a disciplinary inquiry is warranted, it is conducted in accordance with the NRF Disciplinary Code and if an employee is found guilty, lead to a sanction considered befitting the misconduct in question

20. HEALTH, SAFETY AND ENVIRONMENTAL ISSUES

The Occupational Health and Safety (OHS) Act, Act 85 of 1993, prescribes specific compliance requirements for work environments. The NRF has a decentralised responsibility for compliance to legislation including independent reviews or audits. Some National Research Facilities are serviced by dedicated Safety, Health, Environmental and/or Risk professionals. Given the diverse nature of the NRF, health and safety requirements vary and specific interventions are required to meet changing needs.

The NRF continuously monitors its health and safety (H&S) risks and implements appropriate response measures to address undesirable trends as and when identified. This includes numerous management safety interventions (including H&S information notes and tips) and communications by Secretariats of SHE Committees or specialised SHEQ functions to raise awareness of incidents, near misses and other focus topics. The NRF SHER function augments this with rolling high level OHS reviews in accordance with its annual plan. The overview of the results of the assessments gives an indication of compliance of the various business units to the minimum requirements of the OHS act, as well as highlights areas where the specific business unit or facility should endeavour to improve.

Oversight continues in ensuring that the NRF complies with the various circulars and directives issued by Government during the COVID-19 pandemic based on Risk-based Alert levels. The Multi-function Response Committee (MfRC), set up for oversight purposes on behalf of CorpEx, continues to meet regularly. Various guidelines, advisories, templates, checklists and

Standard Operating Procedures (SOPs) are coordinated organisation-wide and a COVID-19 tracker is kept updated. As part of workplace COVID-19 infections' surveillance requirements, all NRF facilities are required to produce incident reports for positive cases (and especially for on-site transmissions) to the SHER unit for central consolidation. Suitable communication and educational material are regularly shared with staff as per monthly Communications Plans. These included communications from the CEO and COVID-19 specific information that extends to wellness aspects.

Environmental sustainability remains at the heart of NRF funded research as well as the RIPs. The Impact Framework being designed will focus on research impact both within and outside of the knowledge enterprise. An impact assessment will consider knowledge impact, economic impact, social impact, policy impact and environmental impact.

Environmental issues are also addressed by the various units within the NRF. The head office invested an estimated amount of R5 million to install a Solar Voltaic grid-tied system to reduce dependency on municipal power. The main objective is to adopt a cleaner, more renewable energy solution for the offices and reduce cost incurred for power.

All of SAEON's and SAIAB's activities contribute to South Africa's environmental sustainability. SAEON has finalised a guideline on how to respond to third parties practising unsustainable development. This guideline has been incorporated into the Ethics guideline. Key internal activities for SAIAB also include water harvesting, alcohol and formalin recycling and power management.

The due diligence exercise and technical study for the water purification plant was completed at iThemba LABS. A detailed study on high-recovery reverse osmosis plant and project delivery mechanisms was also completed. The results of the detailed studies concluded that the project was no longer viable due to the high capital costs of effective brine disposal and the project has accordingly been cancelled.

The Cape Town site of SAAO was declared a national heritage site by SAHRA in terms of Section 27 of the National Heritage Resources Act. A high-level unveiling of the SAAO Heritage Site with Ministerial delegations was performed in October 2020. SAAO has an environmental management plan in place and follows regulations and permit requirements of the Heritage Western Cape. Compliance with municipal water usage policies regarding irrigation and water usage monitoring at both Cape Town and Sutherland. National Department of Water Affairs will

also investigate possible long term solutions on the water supply at the Sutherland Site.

The amended Chapter 2 and Chapter 5 of the Integrated Environmental Management Plan for Phase 1 of the SKA and amendment to the Conditions of Exclusion were published. The amendments are necessary to mitigate the risk of the construction camps to the optimal functioning of the MeerKAT radio telescopes that are currently in operation. The amendments include the acknowledgement of the declaration of portions of the SKA site as the MeerKAT National Park; the increase in the size of the land core area; the development of a perimeter road along the boundary fence; and the development of a solar farm to contribute to the electricity needs of the facility.

21. CORPORATE SECRETARY

The Corporate and Board Secretariat provides a central source of support and guidance to the Board and the NRF Corporate Executive. The functionary of the Corporate and Board Secretariat is not a director of the organisation, but has a direct channel of communication to the Chairperson of the Board. The Corporate and Board Secretariat is accountable to the Board and must:

- Ensure that Board procedures are followed and reviewed regularly.
- Ensure that the applicable rules and regulations for the conduct of the affairs of the Board are complied with.
- Maintain statutory records in accordance with legal requirements.
- Provide the Board as a whole and individual Board members with detailed guidance as to how their responsibilities should be properly discharged in the best interest of the organisation and on good governance.
- Keep abreast of, and inform the Board of current corporate governance thinking and practices.
- Advise the committees on all legal and regulatory matters, including legal frameworks and processes.
- Facilitate the Board induction and training programmes.
- Ensure that the Board Charter and the terms of reference of Board committees are kept up to date.
- Prepare and circulate Board and Board committee papers.
- Elicit responses, input and feedback for Board and Board committee meetings.
- Assist in drafting annual work plans.

- Ensure preparation and circulation of minutes of Board and committee meetings.
- Assist with the preparation and evaluation of the Board, committees and individual directors.

22. SOCIAL RESPONSIBILITY

The NRF has conducted, and will continue to conduct business in a manner that meets existing needs without compromising possibilities for future generations. The NRF takes cognisance of the impact that the business has on its stakeholder community. To this end, the NRF Board enhanced its terms of reference to include the implementation of legal requirements and prevailing codes of best practice and standards with regard to social and ethics matters.

In this context a Social and Ethics report is produced, as part of reporting obligations (including the financial statements, performance against predetermined objectives, and sustainability reporting). The specific activities required to be monitored include the adherence to legislation, regulation and codes of best practice relating to:

- Social and economic development, including the organisations standing relative to the UN Global Compact Principles, the Organisation for Economic Co-operation and Development's (OECD) recommendations regarding the combating of corruption and South Africa's Employment Equity Act and Broad-based Black Economic Empowerment Act.
- Good corporate citizenship, including the positioning and efforts in promoting equality, preventing unfair discrimination and combating corruption, the NRF contribution to the development of communities in which it operates.
- The environment, health and public safety, including the impacts of activities of the NRF on the environment and society.
- Labour and employment, including the NRF's standing relative to the International Labour Organisation's (ILO) Protocol on decent work and working conditions and the employment relationships and contribution to the development of its employees.

The report provides an overview of governance arrangements, areas of current and future focus and measures taken to manage the social and ethical issues.



The social and ethics agenda is addressed at various levels of the organisation. Members of the Board, Corporate Executives and other assurance providers within the organisation are equipped with skills to discharge their duties and accountabilities adequately, specifically relating to the governance outcomes of ethics, performance, control and legitimacy.

The 2020 NRF B-BBEE verification was concluded relative to the work plan of Corporate SCM. The final management report was issued in December 2020 by the verification agency. Some challenges still remain in the process of consolidating and verifying the data, however the NRF undertakes to continue to improve the process. The NRF was rated a Level 5 contributor, an improvement from Level 7 from previous financial year. Some of the improvements can be attributed to the engagements with Business Units and the appointment of the Transformation Working Group which provides ideas and inputs on how to improve preferential procurement element. As part of supplier development and relationship building, two supplier development contracts were signed at iThemba LABS. Engagements are ongoing to get other business units to look for opportunities to develop Black-owned companies.

The NRF has entered into a contract with Life Employee Health Solutions (Life EHS) for the development and

management of an Online Employee Assistance Programme (EAP) which forms part of Employee Wellness Programmes (EWP). This Programme serves all NRF employees and their immediate household/family members. It provides confidential consultation when personal problems threaten their wellbeing or work performance. The service has proven very timely in dealing with employee challenges and in particular as exacerbated by the onset of the COVID-19 pandemic. Overall, there is a positive employee uptake and feedback on the program.

Monthly communication plans are actioned to communicate the Employee Wellness Services on offer, including weekly emailers and a dedicated intranet page where staff can easily access wellness information.

Staff turnover and recruitment activity remain low due to the impact of COVID-19 and the moratorium on filling of vacancies. Recruitment plans and actions to attract ideal candidates and thus manage the risk related to subsequent loss of skills were hampered by the moratorium on recruitment and filling of vacancies.

[Corporate Social Investment](#)

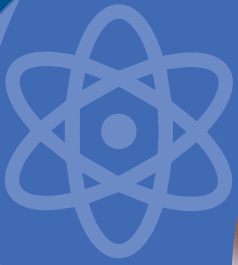
The content is still due to more time required to complete verification of information received.

23. B-BBEE COMPLIANCE PERFORMANCE INFORMATION

The NRF achieved a Level 5 BBEE rating.

Table 13: Code of Good Practice (B-BBEE Certificate Levels 1 – 8)

Has the Public Entity applied any relevant Code of Good Practice (B-BBEE Certificate Levels 1 – 8) with regards to the following:						
Criteria	Response Yes / No	Discussion (include a discussion on your response and indicate what measures have been taken to comply)				
Determining qualification criteria for the issuing of licences, concessions or other authorisations in respect of economic activity in terms of any law?	NO	Not applicable				
Developing and implementing a preferential procurement policy?	NO	National Treasury issued a draft Public Procurement Bill during February 2020 for comments. The preferential procurement policy is one of the policies that is going to be repealed once the Bill becomes an Act in November 2022 should all go according to plan.				
Determining qualification criteria for the sale of state-owned enterprises?	NO	Not applicable				
Developing criteria for entering into partnerships with the private sector?	NO	Not applicable				
Determining criteria for the awarding of incentives, grants, and investment schemes in support of Broad Based Black Economic Empowerment?		Category	Black		Female	
			Target	Actual	Target	Actual
		Researchers Supported	1 400	1 455	1 435	1 320
		Postgraduate students supported	7 650	8 726	5 814	6 395
		NRF Rated researchers	1 337	1 452	1 499	1 516
		<p>In pursuance of its transformation agenda, the NRF has over the years had the following intervention:</p> <ul style="list-style-type: none"> - Promotion of the rating system to under-represented institutions and individuals; - Partnered with institutions to identify especially young, Black scientists who held potential to secure a rating and encouraged and supported these individuals to apply for a rating; - Ran workshops targeting under-represented groups, to assist them with overcoming barriers to entry (real and/or perceived); - Set targets for transformation of rating panels to being more representative in terms of the various demographics and actively pursued transforming these. 				





PART D: HUMAN RESOURCE MANAGEMENT



24. HUMAN RESOURCES MANAGEMENT

Overview of Human Resources (HR) matters

Priorities included a range of strategic shifts and adjustments in policy and processes and the implementation of related tools intended to enable the organisation to adapt to the changing demands in the environment as follows:

- Implementation and refinement of the Performance Management Framework and associated reward mechanisms to align to a team and client-centric culture required to meet the organisation's performance delivery expectations by a range of internal and external stakeholders;
- Implementation of the NRF Executive and Leadership Coaching Programme as one of the various interventions and strategies for learning and skills transferal, which offers development opportunities for the NRF's management and leadership to acquire skills from expert and experienced coaches;
- Increased investment in staff development through the review of the Part-Time Education Assistance Scheme funding levels.

The impact of COVID-19 on implementing planned training interventions lead to the postponement of Management Development Programmes (MDP) and restriction on rolling out other learning interventions due to their significant dependence on the face-to-face delivery method.

Set HR priorities for the year under review and the impact of these priorities

The NRF in its Strategy 2025 aims to achieve a diverse workforce; an equitable and accessible work environment; an inclusive environment where all employees are valued; a work environment free from discrimination; and a level playing field for employee success. In line with these objectives, the NRF needs to ensure that its staff complement is representative of the demographics of the country, it is optimally capacitated and has the right capabilities to ensure high performance as well as have engaged employees with a high quality of work life and commitment to the NRF as employer of choice for retention purposes. In the above regard among other priorities in the APP, particular attention had to be paid to the demographic profile of the leadership cohort and professional staff with regard to race, gender and people living with disabilities in the plans for recruitment. The organisation has identified this matter as being

instrumental to its own sustainability and to ensuring that there is equity of opportunity for all. Another key strategic objective of the NRF is to advance a transformed, coherent, learning organisation that strives for excellence through its lived organisational culture.

Workforce planning framework and key strategies to attract and recruit a skilled and capable workforce

The focus is on internally building a fit-for-purpose organisation with a focus on high performance, diversity and inclusion. Sourcing of scarce skills to ensure equity and representivity of various demographics with emphasis on the previously disadvantaged persons including persons living with disability and women at middle and senior management roles. The deliverables are therefore effective Workforce and Succession Planning, Talent Sourcing, Development and Retention. To underpin the successes of full achievement of the said deliverables the internal organisational environment must be aligned to transformation, diversity and inclusion objectives. A major contributor to that end is a welcoming and supportive organisational culture that is co-created and the values thereof lived in every organisational activity and performance.

Employee performance management framework

The NRF strives to be a high-performance knowledge organisation that yields on-going, long-term value to its stakeholders. It therefore needs to maintain total commitment to high standards of performance, collaboration and teamwork, openness to new ideas and on-going learning. This needs to be done in line with the NRF Act, the NRF Strategic Plan, and underpinned by the NRF Values. It is within this context that the NRF Integrated Performance Management System (IPMS) and its requirements are positioned, driven and implemented. The overall aim of the NRF IPMS is to enable the NRF and its employees to strive for excellence in the achievement of set goals at all levels, through effective performance planning, performance monitoring and measurement, and appropriate skills development. The key principles that underpin the aim of the IPMS are the enhancement of organisational performance, recognition of individual and team contribution, and the effective management of underperformance.

More specifically, the objectives of the IPMS are to facilitate and ensure the following:

- Alignment between organisational, divisional, business unit, departmental and individual goals and objectives.
- Agreement on clearly defined employee performance goals and objectives, in alignment with business goals.

- Monitoring and measurement of employee and team performance, against agreed goals and objectives.
 - Provision of regular feedback between management/supervisors and their direct reports on performance relative to agreed goals and objectives.
 - Improvement of performance through multi-faceted employee development approaches and appropriate skills development.
 - Effective discussions on career-pathing, which may inform employee development and movement considerations.
 - Enhancement and reinforcement of a culture of performance and teamwork among employees at all levels in the organisation.
- Blueprint sessions were also concluded for the development of the following ERP modules:
 - Succession Planning
 - Purchase Requisitions and Purchase Orders.
 - A final Employment Equity Plan for 2020-2025 was developed and approved by the Remuneration and HR Committee of the NRF Board and lodged with the Department of Employment and Labour in January 2021.
 - Roll out of Transformation, Diversity and Inclusion (TDI) Train the Trainer workshop with the first batch of 60 line managers (mixed occupational levels).

Employee wellness programmes

An Employee Wellness Survey was rolled out at the beginning of the year to assess how employees were doing amidst the challenges of a global pandemic and work demands. Overall the organisational health is at acceptable levels although there is room for improvement. The NRF has entered into a contract with Life Employee Health Solutions (Life EHS) for the development and management of an Online Employee Assistance Programme (EAP) which forms part of Employee Wellness Programmes (EWP) as from 09 April 2020. This Programme serves all NRF employees and their immediate household/family members. It provides confidential consultation when personal problems threaten their wellbeing or work performance. The service has proven very timely in dealing with employee challenges and in particular as exacerbated by the onset of COVID-19 pandemic. Overall, there is a positive employee uptake and feedback on the programme.

Policy development

The Human Resources and Legal Services unit has embarked upon an extensive review of its suite of policies over the past year to ensure their relevance and alignment in respect of best practice human resources management and developments in the legislative and employee relations environment.

Highlight achievements

- The implementation of the ERP system continues at a steady pace, with the conclusion of the development of the following modules:
 - Performance Management.
 - Recruitment and Selection.

Challenges faced by the organisation

Market challenges are experienced in attracting and retaining skilled human resources due to the national war for talent. As a result of the reduced budget, remuneration strategies that could be employed in attracting and retaining skilled human resources could not be deployed. A major concern remains the challenge in meeting transformation targets and ensuring that succession pools are sufficiently diverse to ensure sustainability of diversity and inclusion. This is partly due to the inability to fill scarce skills vacancies and continue to replace exits in such a manner as to achieve demographic representivity, as is intended.

Future HR plans /goals

Over the next three years the identified challenges will be addressed through continued transformation efforts with respect to the demographic profile of the NRF staff in line with the employment equity targets and the corresponding affirmative action measures documented in the Employment Equity Plan 2021-2025. An organisational culture which supports the delivery of NRF strategic direction and high performance will be co-created by formally assessing the manifest organisational culture and developing the process of building the desired culture that will underpin and sustain the delivery of NRF's Strategy 2025 and Vision 2030. There will be continued execution of Training as per the Work Place Skills Plan (WSP) to ensure supportive opportunities for employees to develop and meet the organisation's talent requirements. This will include the continuation of Executive Development Programmes and Coaching for employees at senior levels. An organisation wide skills audit and service delivery model review is underway to ensure that the support to research performing functions is optimised, optimally distributed and shared across the organisation.



25. HUMAN RESOURCES OVERSIGHT STATISTICS

Personnel Cost by programme				
Occupational level	Personnel Expenditure (R'000)	Personnel Expenditure as a % of total expenditure	Total Employees	Average Personnel cost per employee (R'000)
Programme 1 - Corporate	60 373	8%	65	929
Programme 2 - Science Engagement	41 454	5%	73	568
Programme 3 - Research and Innovation Support and Advancement	117 394	15%	187	628
Programme 4 - National Research Facilities	561 076	72%	908	618
TOTAL	780 297	100%	1233	632 84

Personnel cost by salary band				
Occupational level	Personnel Expenditure (R'000)	Personnel Expenditure as a % of total expenditure	Total Employees	Average Personnel cost per employee (R'000)
Top Management	18 640	2%	7	2 663
Senior Management	59 634	8%	35	1 704
Professionally qualified and experienced specialists and mid management	330 930	42%	354	935
Skilled technical and academically qualified workers junior management supervisors, foremen and superintendents	343 868	44%	700	491
Semi - skilled and discretionary decision making	19 430	2%	91	214
Unskilled and defined decision making	7 794	1%	46	169
TOTAL	780 297	100%	1233	632.84

Performance Rewards			
Occupational level	Performance rewards (R'000)	Personnel Expenditure (R'000)	% of performance rewards to total personnel cost (R'000)
Top Management	0	18 640	0%
Senior Management	0	59 634	0%
Professional qualified	0	330 930	0%
Skilled	0	343 868	0%
Semi-skilled	0	19 430	0%
Unskilled	0	7 794	0%
TOTAL	0	780 297	0%

Training Costs			
Business Unit	Training Expenditure	Employees Trained	Average Training Cost Per Employee
Corporate	R 496 865	18	R 27 603.61
iThemba LABS	R 623 781.70	37	R 16 858.96
SAAO	R 3 562 879.75	75	R 47 505.06
SAASTA	R 35 728.36	15	R 4 466.04
SAEON	R 293 144	228	R 1 285.71
SAIAB	R 201 282	68	R 230
SARAO	R 20 720	16	R 3 068
SARAO	R 1 529 291.14	153	R 9 995.37
Corporate Training	R 481 911.14	293	R 1 644.75
Grand Total	R 7 245 603.09	903	R 8 023.92

Employment and vacancies

The recruitment activity in the organisation has declined due to the impact of COVID-19 and the moratorium on filling of vacancies. The cumulative annual staff turnover year to date is at 8.4% of which 6.6% can be classified as controllable turnover which includes resignations, contracts expiring, and retrenchments.

Employment and vacancies by Programme					
Programme	2019/2020 No. of Employees	2019/2020 Approved Posts	2020/2021 No. of Employees	2020/21 Vacancies	% of vacancies
Programme 1 - Corporate	82	85	65	7	10.8%
Programme 2 - Science Engagement	63	64	73	9	12.3%
Programme 3 - Research and Innovation Support and Advancement	190	196	187	11	5.9%
Programme 4 - National Research Facilities	935	980	908	91	10.0%
TOTAL	1 270	1 325	1233	118	9.6%

Employment and vacancies by Occupational level					
Occupational level	2019/2020 No. of Employees	2019/2020 Approved Posts	2020/2021 No. of Employees	2020/2021 Vacancies	% of vacancies
Top Management	8	8	7	1	14.3%
Senior Management	31	35	35	3	8.6%
Professional qualified	353	372	354	33	9.3%
Skilled	734	763	700	73	10.4%
Semi-skilled	87	88	91	3	3.3%
Unskilled	57	59	46	5	10.9%
TOTAL	1 270	1 325	1 233	118	9.6%

Employment changes				
Salary Band	Employment at beginning of period	Appointments	Terminations	Employment at end of the period
Top Management	8	0	1	7
Senior Management	33	1	1	35
Professional qualified	369	11	28	354
Skilled	721	38	53	700
Semi-skilled	100	5	17	91
Unskilled	49	3	5	46
TOTAL	1 280	58	105	1 233



Reasons for staff leaving

A total of 105 terminations occurred and 58 vacancies have been filled year to date. The table below illustrates the reasons for staff leaving.

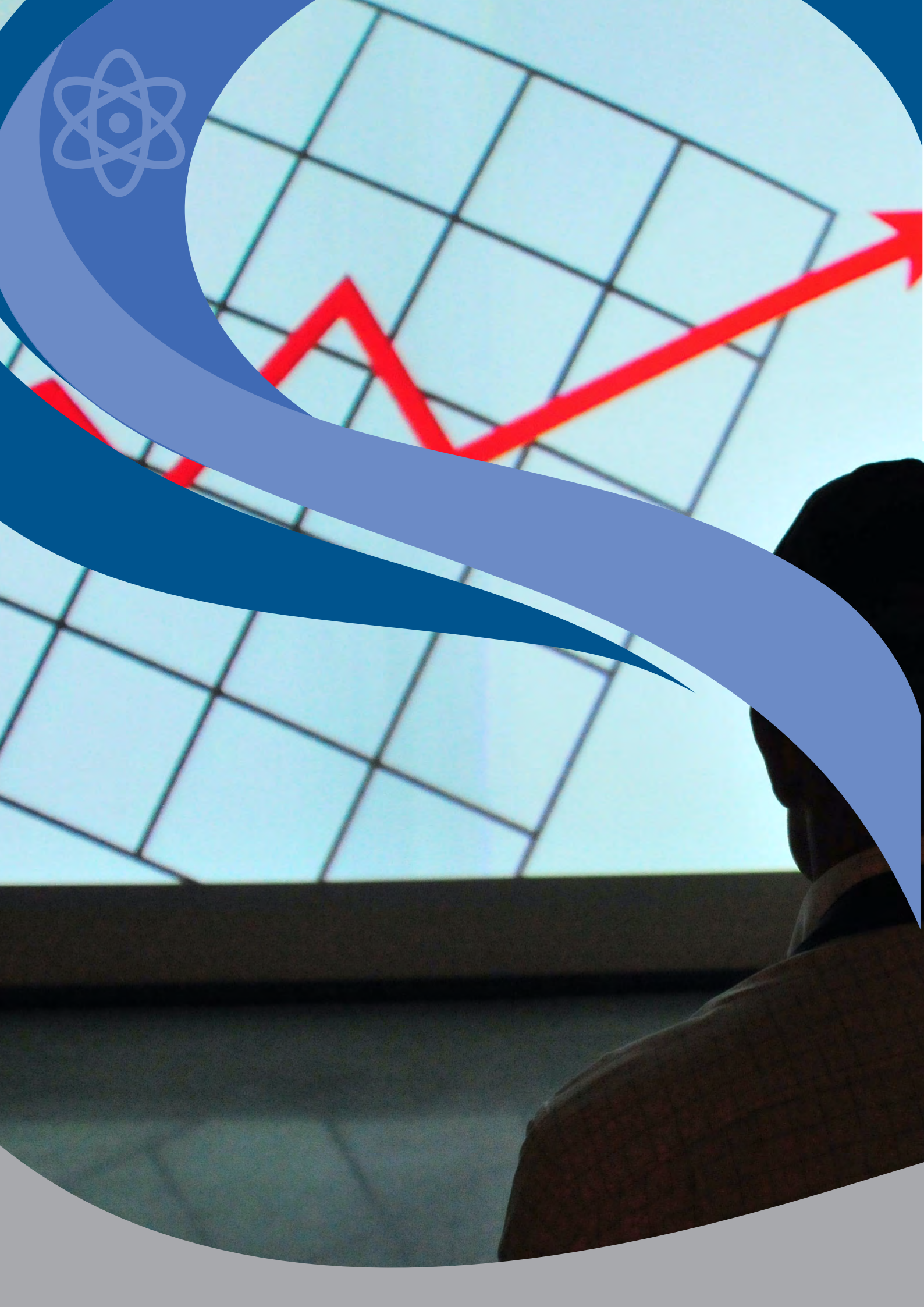
Reason	No. of Employees	% of Total No. of staff leaving
Absconded	0	0.00%
Deceased	5	4.76%
Dismissal	3	2.86%
End of Fixed Contract	42	40.00%
Ill-health/Disability	2	1.90%
Resignation	42	40.00%
Retirement	11	10.48%
Retrenchment	0	0.00%
Transfers	0	0.00%
TOTAL	105	100.0%

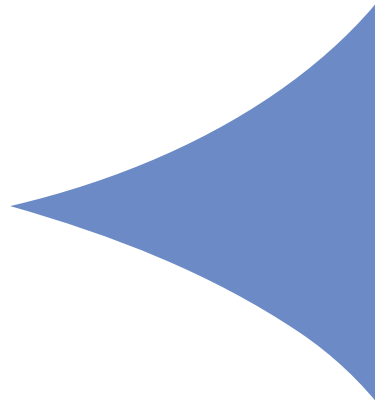
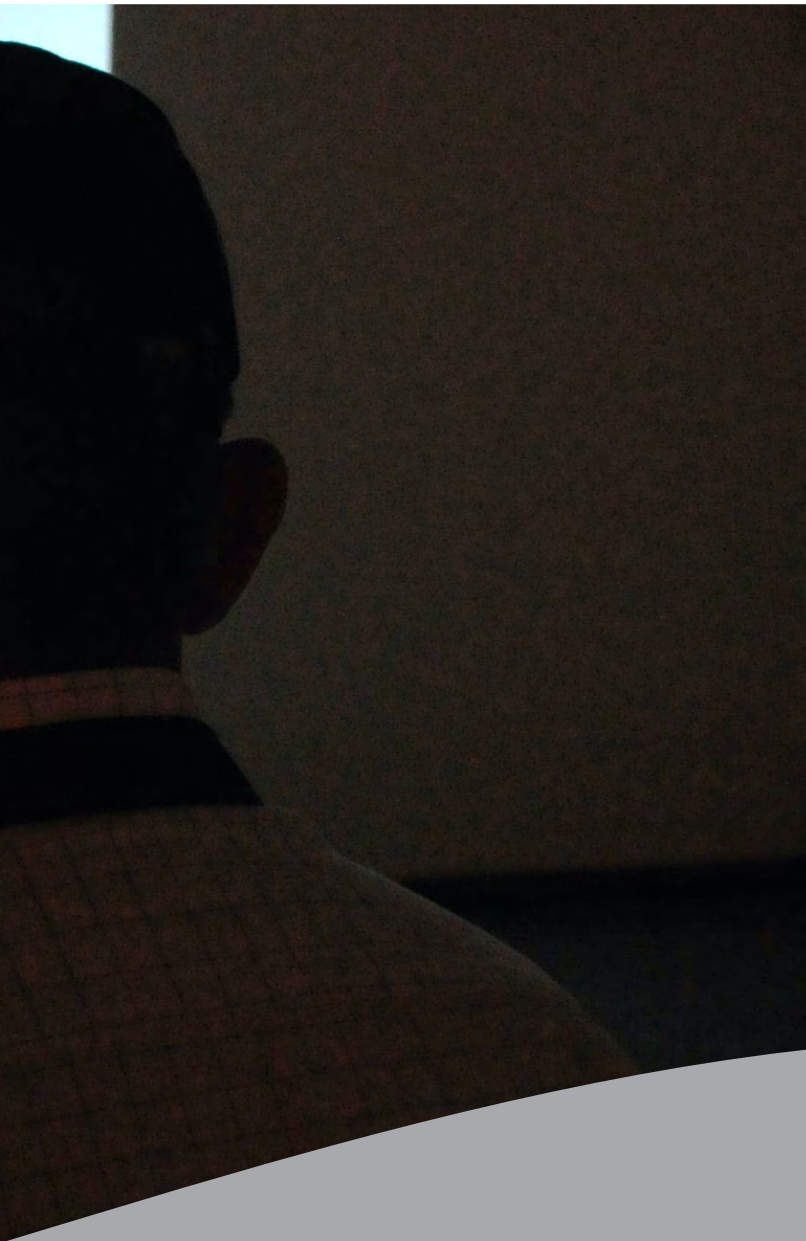
Labour Relations: Misconduct and disciplinary action	
Nature of disciplinary Action	Number
Verbal Warning	2
Written Warning	16
Final Written warning	3
Dismissal	3

Equity Target and Employment Equity Status								
Occupational level	Male							
	African		Coloured		Indian		White	
	Current	Target 2020	Current	Target 2020	Current	Target 2020	Current	Target 2020
Top Management	2	2	0	0	2	2	1	1
Senior Management	6	7	1	1	0	1	18	15
Professionally qualified and experienced specialists and mid management	62	77	32	36	9	9	125	123
Skilled technical and academically qualified workers junior management supervisors, foremen and superintendents	170	180	110	136	9	8	63	69
Semi - skilled and discretionary decision making	21	22	42	40	0	0	1	2
Unskilled and defined decision making	13	12	7	7	0	0	0	0
TOTAL	274	220	192	300	20	20	208	210

Equity Target and Employment Equity Status								
Occupational level	Male							
	African		Coloured		Indian		White	
	Current	Target 2020	Current	Target 2020	Current	Target 2020	Current	Target 2020
Top Management	1	2	1	1	0	0	0	0
Senior Management	3	5	0	0	2	2	2	2
Professionally qualified and experienced specialists and mid management	28	41	13	19	6	5	41	43
Skilled technical and academically qualified workers junior management supervisors, foremen and superintendents	207	204	62	63	12	11	49	38
Semi - skilled and discretionary decision making	14	15	13	15	0	0	0	1
Unskilled and defined decision making	12	15	14	15	0	0	0	0
TOTAL	265	282	103	113	20	18	92	84

Occupational level	Disabled staff			
	Male		Female	
	Current	Target	Current	Target
Top Management	0	0	0	0
Senior Management	0	0	0	0
Professionally qualified and experienced specialists and mid management	2	2	0	0
Skilled technical and academically qualified workers junior management supervisors, foremen and superintendents	1	3	2	3
Semi - skilled and discretionary decision making		0	1	2
Unskilled and defined decision making	0	1	0	0
TOTAL	3	6	3	5





PART E: FINANCIAL INFORMATION



26. REPORT OF THE AUDITOR-GENERAL TO PARLIAMENT ON NATIONAL RESEARCH FOUNDATION

Report on the audit of the financial statements

Opinion

1. I have audited the financial statements of the National Research Foundation set out on pages 78 to 123, which comprise the statement of financial position as at 31 March 2021, the statement of financial performance, statement of changes in net assets and cash flow statement and statement of comparison of budget and actual amounts for the year then ended, as well as notes to the financial statements, including a summary of significant accounting policies.
2. In my opinion, the financial statements present fairly, in all material respects, the financial position of the National Research Foundation as at 31 March 2021, and its financial performance and cash flows for the year then ended in accordance with South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and the requirements of the Public Finance Management Act of South Africa, 1999 (Act No. 1 of 1999) (PFMA).

Basis for opinion

3. I conducted my audit in accordance with the International Standards on Auditing (ISAs). My responsibilities under those standards are further described in the auditor-general's responsibilities for the audit of the financial statements section of my report.
4. I am independent of the entity in accordance with the International Ethics Standards Board for Accountants' *International code of ethics for professional accountants (including International Independence Standards)* (IESBA code) as well as other ethical requirements that are relevant to my audit in South Africa. I have fulfilled my other ethical responsibilities in accordance with these requirements and the IESBA code.
5. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Responsibilities of the accounting authority for the financial statements

6. The accounting authority is responsible for the preparation and fair presentation of the financial statements in accordance with SA Standards of GRAP and the requirements of the PFMA, and for such internal control as the accounting authority determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.
7. In preparing the financial statements, the accounting authority is responsible for assessing the entity's ability to continue as a going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting unless the appropriate governance structure either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so.

Auditor-general's responsibilities for the audit of the financial statements

8. My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with the ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.
9. A further description of my responsibilities for the audit of the financial statements is included in the annexure to this auditor's report.

Report on the audit of the annual performance report

Introduction and scope

10. In accordance with the Public Audit Act 25 of 2004 (PAA) and the general notice issued in terms thereof, I have a responsibility to report on the usefulness and reliability of the reported performance information against predetermined objectives for selected programmes presented in the annual performance report. I performed procedures to identify material findings but not to gather evidence to express assurance.
11. My procedures address the usefulness and reliability of the reported performance information, which must be based on the entity's approved performance planning documents. I have not evaluated the completeness and appropriateness of the performance indicators included in the planning documents. My procedures do not examine whether the actions taken by the entity enabled service delivery. My procedures do not extend to any disclosures or assertions relating to the extent of achievements in the current year or planned performance strategies and information in respect of future periods that may be included as part of the reported performance information. Accordingly, my findings do not extend to these matters.
12. I evaluated the usefulness and reliability of the reported performance information in accordance with the criteria developed from the performance management and reporting framework, as defined in the general notice, for the following selected programme presented in the entity's annual performance report for the year ended 31 March 2021:

Programme	Pages in the annual performance report
Programme 3 - Research and Innovation Support and Advancement (RISA)	27 – 35

13. I performed procedures to determine whether the reported performance information was properly

presented and whether performance was consistent with the approved performance planning documents. I performed further procedures to determine whether the indicators and related targets were measurable and relevant, and assessed the reliability of the reported performance information to determine whether it was valid, accurate and complete.

14. I did not identify any material findings on the usefulness and reliability of the reported performance information for this programme:
- Programme 3 - Research and Innovation Support and Advancement (RISA)

Other matter

15. I draw attention to the matter below.

Achievement of planned targets

16. Refer to the annual performance report on pages 24 to 38 for information on the achievement of planned targets for the year and management's explanations provided for the under/over achievement of targets.

Report on the audit of compliance with legislation

Introduction and scope

17. In accordance with the PAA and the general notice issued in terms thereof, I have a responsibility to report material findings on the entity's compliance with specific matters in key legislation. I performed procedures to identify findings but not to gather evidence to express assurance.
18. I did not identify any material findings on compliance with the specific matters in key legislation set out in the general notice issued in terms of the PAA.

Other information

19. The accounting authority is responsible for the other information. The other information comprises the information included in the annual report. The other information does not include the financial statements, the auditor's report and the selected



programme presented in the annual performance report that have been specifically reported in this auditor's report.

20. My opinion on the financial statements and findings on the reported performance information and compliance with legislation do not cover the other information and I do not express an audit opinion or any form of assurance conclusion on it.
21. In connection with my audit, my responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements and the selected programme presented in the annual performance report, or my knowledge obtained in the audit, or otherwise appears to be materially misstated.
22. I did not receive the other information prior to the date of this auditor's report. When I do receive and read this information, if I conclude that there is a material misstatement therein, I am required to communicate the matter to those charged with governance and request that the other information be corrected. If the other information is not corrected, I may have to retract this auditor's report and re-issue an amended report as appropriate. However, if it is corrected this will not be necessary.

Internal control deficiencies

23. I considered internal control relevant to my audit of the financial statements, reported performance information and compliance with applicable legislation; however, my objective was not to express any form of assurance on it.
24. I did not identify any significant deficiencies in internal control.

Pretoria
31 July 2021



AUDITOR - GENERAL
SOUTH AFRICA

Auditing to build public confidence

Annexure – Auditor-general’s responsibility for the audit

1. As part of an audit in accordance with the ISAs, I exercise professional judgement and maintain professional scepticism throughout my audit of the financial statements and the procedures performed on reported performance information for selected programme and on the entity’s compliance with respect to the selected subject matters.

Financial statements

2. In addition to my responsibility for the audit of the financial statements as described in this auditor’s report, I also:

- identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error; design and perform audit procedures responsive to those risks; and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations or the override of internal control
- obtain an understanding of internal control relevant to the audit 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
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the accounting authority
- conclude on the appropriateness of accounting authority’s use of the going concern basis of accounting in the preparation of the financial statements. I also conclude, based on the

audit evidence obtained, whether a material uncertainty exists relating to events or conditions that may cast significant doubt on the ability of the National Research Foundation to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor’s report to the related disclosures in the financial statements about the material uncertainty or, if such disclosures are inadequate, to modify my opinion on the financial statements. My conclusions are based on the information available to me at the date of this auditor’s report. However, future events or conditions may cause the entity to cease operating as a going concern

- evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and determine whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation

Communication with those charged with governance

3. I communicate with the accounting authority regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.
4. I also provide the accounting authority with a statement that I have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on my independence and, where applicable, actions taken to eliminate threats or safeguards applied.



27. BOARD'S RESPONSIBILITIES AND APPROVAL

The Board is required by the Public Finance Management Act (Act 1 of 1999), as amended, to maintain adequate accounting records and is responsible for the content and integrity of the annual financial statements and related financial information included in this report. It is the responsibility of the Board to ensure that the annual financial statements fairly present the state of affairs of the NRF as at the end of the financial year and the results of its operations and cash flows for the period then ended. The external auditors were engaged to express an independent opinion on the annual financial statements and were given unrestricted access to all financial records and related data.

The annual financial statements have been prepared in accordance with Standards of Generally Recognised Accounting Practice (GRAP) including any interpretations, guidelines and directives issued by the Accounting Standards Board.

The annual financial statements are based upon appropriate accounting policies consistently applied and supported by reasonable and prudent judgements and estimates.

The Board acknowledges that it is ultimately responsible for the system of internal financial control established by the NRF and places considerable importance on maintaining a strong control environment. To enable the Board to meet these responsibilities, the Board sets standards for internal control aimed at reducing the risk of error or deficit in a cost effective manner. The standards include the proper delegation of responsibilities within a clearly defined framework, effective accounting procedures and adequate segregation of duties to ensure an acceptable level of risk. These controls are monitored throughout the NRF and all employees are required to maintain the highest ethical standards in ensuring the NRF's business is conducted in a manner that in all reasonable circumstances is above

reproach. The focus of risk management in the NRF is on identifying, assessing, managing and monitoring all known forms of risk across the entity. While operating risk cannot be fully eliminated, the NRF endeavours to minimise it by ensuring that appropriate infrastructure, controls, systems and ethical behaviour are applied and managed within predetermined procedures and constraints.

The Board is of the opinion, based on the information and explanations given by management, that the system of internal control provides reasonable assurance that the financial records may be relied on for the preparation of the annual financial statements. However, any system of internal financial control can provide only reasonable, and not absolute, assurance against material misstatement or deficit.

The Board has reviewed the NRF's cash flow forecast for the year to 31 March 2022 and, in the light of this review and the current financial position, it is satisfied that the NRF has, or has access to, adequate resources to continue in operational existence for the foreseeable future.

Although the Board is primarily responsible for the financial affairs of the NRF, it is supported by the NRF's external auditors.

The external auditors are responsible for independently reviewing and reporting on the NRF's annual financial statements. The annual financial statements have been examined by the entity's external auditors and their report is presented on page 72.

The annual financial statements set out on page 78, which have been prepared on the going concern basis, were approved by the Board on 26th July 2021 and were signed on its behalf by:

Dr Nompumelelo Obokoh
Chairperson: NRF Board

Dr Fulufhelo Nelwamondo
Chief Executive Officer

28. AUDIT AND RISK COMMITTEE REPORT

We are pleased to present our report for the financial year ended 31 March 2021.

Audit and Risk Committee Responsibility

The Audit and Risk Committee reports that it has complied with its responsibilities arising from Section 51(a)(ii) of the Public Finance Management Act and Treasury Regulation 27.1. The Audit and Risk Committee also reports that it has adopted appropriate formal terms of reference as its Audit and Risk Committee Charter, has regulated its affairs in compliance with this charter and has discharged all its responsibilities as contained therein.

The Effectiveness of Internal Control

Our review of the findings of the internal audit work, which was based on risk assessments conducted in the entity, revealed certain weaknesses, which were then raised with corrective actions taken by the entity, where necessary, taken by the entity. The following risk-based assurance activities were undertaken and concluded as per the approved audit plans:

- Supply Chain and Financial Management audits.
- Performance audits.
- Human Resources audits.
- Information Communication Technology audits.
- Project assurance reviews.
- Due diligence reviews.
- Grant management reviews.
- Follow up audits on prior year's findings.

Based on the outcome of the above internal audits conducted during the year, the system of internal control in the organisation was assessed as generally sound, with some room for improvement in certain aspects which has received management's attention.

In order to ensure efficient coverage, a combined assurance approach to the system of internal controls is adopted. Internal Audit is committed to working with external audit, as far as possible, to avoid duplication of audit effort, prevent omission of crucial business activities, and align as far as possible so as to create the opportunity for external audit to place reliance on the work of Internal Audit.

In line with the PFMA and the King IV Report on Corporate Governance requirements, Internal Audit provides the Audit and Risk Committee and management with assurance that the internal controls are appropriate and effective. This is achieved by means of risk management processes, as well as the identification of corrective actions and suggested enhancements to the controls and processes. From the various reports of the Internal Auditors, the Audit Report on the Annual Financial Statements, and the management report of the Auditor-General South Africa, it was noted that no matters were reported that indicate any material deficiencies in the system of internal control or any deviations therefrom. Accordingly, the Committee can report that the system of internal control over financial reporting for the period under review was sufficient, efficient and effective.

In-Year Management and Quarterly Reports

The public entity has submitted all quarterly reports to the Executive Authority and other relevant authorities as required by the PFMA.

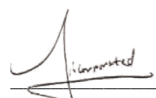
Evaluation of Financial Statements

We confirm that we have reviewed the Annual Financial Statements prepared by the public entity.

Auditor's Report

We have reviewed the entity's implementation plan for audit issues raised in the prior year and we are satisfied that the matters have been adequately resolved.

The Audit and Risk Committee concurs and accepts the conclusions of the Auditor-General on the annual financial statements and is of the opinion that the audited Annual Financial Statements be accepted and read together with the report of the Auditor-General.



Mr Ronny Lubisi

Chairperson of the NRF Board Audit and Risk Committee
July 2021



29. Annual Financial Statements for the year ended 31 March 2021

Statement of Financial Position as at 31 March 2021

	Note(s)	2021 '000	2020 '000
Assets			
Current assets			
Inventories	11	7,933	5,058
Other financial assets	7	520,375	672,670
Receivables from exchange transactions	12	222,764	217,590
Receivables from non-exchange transactions	13	109,647	13,746
Grants paid in advance	10	11,707	11,912
Cash and cash equivalents	14	832,597	861,056
		1,705,023	1,782,032
Non-current assets			
Property, plant and equipment	3	2,383,753	2,482,369
Intangible assets	4	71,157	55,898
Heritage assets	6	15,665	15,661
Investments in associates	5	7,443	12,591
Employee benefit asset	8	2,437	2,232
Prepayments	9	100,293	108,377
		2,580,748	2,677,128
Total assets		4,285,771	4,459,160
Liabilities			
Current liabilities			
Payables from exchange transactions	19	141,080	117,811
Designated income received in advance	18	1,566,742	1,667,489
		1,707,822	1,785,300
Total Liabilities		1,707,822	1,785,300
Net assets		2,577,949	2,673,860
Reserves			
SALT fund	16	7,443	12,591
Capital fund	15	2,470,569	2,553,927
Infrastructure fund		96,776	101,777
Accumulated surplus		3,161	5,565
Total net assets		2,577,949	2,673,860

Statement of Financial Performance

	Note(s)	2021 '000	2020 '000
Revenue			
Revenue from exchange transactions			
Sale of goods and services	20	69,788	82,148
Other income	21	9,706	10,963
Interest received - investment	22	35,398	58,475
Gain on foreign exchange		9,437	-
Actuarial gains		205	188
Total revenue from exchange transactions		124,534	151,774
Revenue from non-exchange transactions			
Parliamentary grant		859,469	943,385
DSI contract income	23	2,297,585	2,553,161
Contract income - other	24	292,619	295,932
Total revenue from non-exchange transactions		3,449,673	3,792,478
Total revenue		3,574,207	3,944,252
Expenditure			
Programme 1: Corporate		(97,071)	(99,535)
Programme 2: Science Engagement		(89,049)	(120,968)
Programme 3: Research and Innovation Support and Advancement		(2,243,376)	(2,468,215)
Programme 4: National Research Infrastructure Platforms		(1,231,900)	(1,297,645)
Loss on disposal of assets and liabilities		(3,573)	(1,050)
Loss on foreign exchange		-	(1,571)
Share of deficits from associates using the equity method		(5,148)	(1,204)
Total expenditure		(3,670,117)	(3,990,188)
Surplus/(deficit) for the year before asset acquisitions		(95,910)	(45,936)

The accounting policies on pages 82 to 98 and the notes on pages 99 to 123 form an integral part of the annual financial statements.

Statement of Changes in Net Assets

	SALT fund '000	Capital fund '000	Infrastructure fund '000	Total reserves '000	Accumulated surplus '000	Total net assets '000
Balance at April 01, 2019	13,795	2,630,764	72,878	2,717,437	2,359	2,719,796
Changes in net assets						
Surplus for the year	-	-	-	-	(45,936)	(45,936)
Transfer from SALT fund	(1,204)	-	-	(1,204)	1,204	-
Transfer from Capital fund	-	(76,837)	-	(76,837)	76,837	-
Transfer to Infrastructure fund	-	-	28,899	28,899	(28,899)	-
Total changes	(1,204)	(76,837)	28,899	(49,142)	3,206	(45,936)
Balance at April 01, 2020	12,591	2,553,927	101,777	2,668,295	5,565	2,673,860
Changes in net assets						
Surplus for the year	-	-	-	-	(95,910)	(95,910)
Transfer from Infrastructure Fund	-	-	(5,000)	(5,000)	5,000	-
Transfer from Capital fund	-	(83,358)	-	(83,358)	83,358	-
Transfer from SALT fund	(5,148)	-	-	(5,148)	5,148	-
Total changes	(5,148)	(83,358)	(5,000)	(93,506)	(2,404)	(95,910)
Balance at March 31, 2021	7,443	2,470,569	96,777	2,574,789	3,161	2,577,950
Note(s)	16	15				



Cash Flow Statement

	Note(s)	2021 '000	2020 '000
Cash flows from operating activities			
Receipts			
Parliamentary grant		859,469	943,385
DSI contract funding received		2,251,642	2,793,998
Other contract funding received		141,913	339,980
Interest income		35,398	58,475
Other receipts		74,320	71,396
		3,362,742	4,207,234
Payments			
Employee costs		(805,040)	(767,519)
Suppliers		(415,310)	(643,822)
Grants, bursaries and other research		(1,974,697)	(2,391,978)
		(3,195,047)	(3,803,319)
Net cash flows from operating activities	29	167,695	403,915
Cash flows from investing activities			
Purchase of property, plant and equipment	3	(172,990)	(173,681)
Proceeds from sale of property, plant and equipment	3	130	574
Purchase of other intangible assets	4	(23,290)	(27,321)
Purchase of heritage assets	6	(4)	(182)
Net cash flows from investing activities		(196,154)	(200,610)
Cash flows from financing activities			
Finance lease payments		-	(38)
Net increase/(decrease) in cash and cash equivalents		(28,459)	203,267
Cash and cash equivalents at the beginning of the year		861,056	657,789
Cash and cash equivalents at the end of the year	14	832,597	861,056

The accounting policies on pages 82 to 98 and the notes on pages 99 to 123 form an integral part of the annual financial statements.

Statement of Comparison of Budget and Actual Amounts

Budget on Accrual Basis

	Approved budget '000	Actual amounts on comparable basis '000	Difference between final budget and actual '000	Reference
Statement of Financial Performance				
Revenue				
Revenue from exchange transactions				
Sale of goods and services	68,664	69,788	1,124	
Other income	3,618	9,706	6,088	39
Interest received - investment	36,229	35,398	(831)	
Total revenue from exchange transactions	108,511	114,892	6,381	
Revenue from non-exchange transactions				
DSI contract income	2,785,712	2,297,585	(488,127)	39
Parliamentary grant	869,487	859,469	(10,018)	39
Other contract income	309,982	292,619	(17,363)	39
Total revenue from non-exchange transactions	3,965,181	3,449,673	(515,508)	
Total revenue	4,073,692	3,564,565	(509,127)	
Expenditure				
Employees related costs	(864,433)	(822,664)	41,769	39
Depreciation and amortisation	(294,583)	(273,100)	21,483	39
Grants, bursaries and other research expenditure	(2,364,522)	(2,127,197)	237,325	39
Programme and operating expenses	(563,851)	(438,435)	125,416	39
Total expenditure	(4,087,389)	(3,661,396)	425,993	
Loss on disposal of assets and liabilities	(160)	(3,573)	(3,413)	
Gain/(loss) on foreign exchange	(930)	9,437	10,367	
Actuarial gain/(losses)	-	205	205	
Share of surpluses or deficits from associates or joint ventures accounted for using the equity method	-	(5,148)	(5,148)	
	(1,090)	921	2,011	
Actual amount on comparable basis as presented in the Budget and Actual Comparative Statement	(14,787)	(95,910)	(81,123)	



30. ACCOUNTING POLICIES

1. Presentation of Annual Financial Statements

The annual financial statements have been prepared in accordance with the Standards of Generally Recognised Accounting Practice (GRAP), issued by the Accounting Standards Board in accordance with Section 89 of the Public Finance Management Act (Act 1 of 1999), as amended.

These annual financial statements have been prepared on an accrual basis of accounting and are in accordance with the historical cost convention as the basis of measurement, unless specified otherwise. They are presented in South African Rand.

In the absence of an issued and effective Standard of GRAP, accounting policies for material transactions, events or conditions were developed in accordance with paragraphs 8, 10 and 11 of GRAP 3 as read with Directive 5.

Assets, liabilities, revenues and expenses were not offset, except where offsetting is either required or permitted by a Standard of GRAP.

A summary of the significant accounting policies, which have been consistently applied in the preparation of these annual financial statements, is disclosed below.

These accounting policies are consistent with the previous period.

1.1 Presentation currency

These annual financial statements are presented in South African Rand, which is the functional currency of the entity.

1.2 Going concern assumption

These annual financial statements have been prepared based on the expectation that the entity will continue to operate as a going concern for at least the next 12 months.

1.3 Materiality

Material omissions or misstatements of items are material if they could, individually or collectively, influence the decisions or assessments of users made on the basis

of the financial statements. Materiality depends on the nature or size of the omission or misstatement judged in the surrounding circumstances. The nature or size of the information item, or a combination of both, could be the determining factor.

Assessing whether an omission or misstatement could influence decisions of users, and so be material, requires consideration of the characteristics of those users. The Framework for the Preparation and Presentation of Financial Statements states that users are assumed to have a reasonable knowledge of government, its activities, accounting and a willingness to study the information with reasonable diligence. Therefore, the assessment takes into account how users with such attributes could reasonably be expected to be influenced in making and evaluating decisions.

1.4. Significant judgements and sources of estimation uncertainty

In preparing the annual financial statements, management is required to make estimates and assumptions that affect the amounts represented in the annual financial statements and related disclosures. Use of available information and the application of judgement is inherent in the formation of estimates. Actual results in the future could differ from these estimates, which may be material to the annual financial statements. Significant judgements include:

Trade receivables, held to maturity investments and/or loans and receivables

The entity assesses its trade receivables and loans and receivables for impairment at the end of each reporting period. In determining whether an impairment loss should be recorded in surplus or deficit, the surplus makes judgements as to whether there is observable data indicating a measurable decrease in the estimated future cash flows from a financial asset.

Fair value estimation

The carrying value less impairment provision of trade receivables and payables are assumed to approximate their fair values. The fair value of financial liabilities for disclosure purposes is estimated by discounting the future contractual cash flows at the current market interest rate that is available to the entity for similar financial instruments.

Impairment testing

The recoverable amounts of cash-generating units and individual assets have been determined based on the higher of value-in-use calculations and fair values less costs to sell. These calculations require the use of estimates and assumptions.

The entity reviews and tests the carrying value of assets when events or changes in circumstances suggest that the carrying amount may not be recoverable. Assets are grouped at the lowest level for which identifiable cash flows are largely independent of cash flows of other assets and liabilities. If there are indications that impairment may have occurred, estimates are prepared of expected future cash flows for each group of assets. Expected future cash flows used to determine the value in use of tangible assets are inherently uncertain and could materially change over time.

Provisions

Provisions were raised and management determined an estimate based on the information available. Additional disclosure of these estimates of provisions are included in note 17 - Provisions.

Post-retirement benefits

The present value of the post-retirement obligation depends on a number of factors that are determined on an actuarial basis using a number of assumptions. The assumptions used in determining the net cost/(income) include the discount rate. Any changes in these assumptions will impact on the carrying amount of post-retirement obligations.

Other key assumptions for pension obligations are based on current market conditions. Additional information is disclosed in Note 8.

Effective interest rate

The entity used the prime interest rate to discount future cash flows.

1.5 Property, plant and equipment

Property, plant and equipment are tangible non-current assets (including infrastructure assets) that are held for use in the production or supply of goods or services, rental to others, or for administrative purposes, and are expected to be used during more than one period.

The cost of an item of property, plant and equipment is recognised as an asset when:

- it is probable that future economic benefits or service potential associated with the item will flow to the entity; and
- the cost of the item can be measured reliably.

Property, plant and equipment is initially measured at cost.

The cost of an item of property, plant and equipment is the purchase price and other costs attributable to bring the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Trade discounts and rebates are deducted in arriving at the cost.

Where an asset is acquired through a non-exchange transaction, its cost is its fair value as at date of acquisition.

Where an item of property, plant and equipment is acquired in exchange for a non-monetary asset or monetary assets, or a combination of monetary and non-monetary assets, the asset acquired is initially measured at fair value (the cost). If the acquired item's fair value was not determinable, its deemed cost is the carrying amount of the asset(s) given up.

When significant components of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

Costs include costs incurred initially to acquire or construct an item of property, plant and equipment and costs incurred subsequently to add to, replace part of, or service it. If a replacement cost is recognised in the carrying amount of an item of property, plant and equipment, the carrying amount of the replaced part is derecognised.

The initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located is also included in the cost of property, plant and equipment, where the entity is obligated to incur such expenditure, and where the obligation arises as a result of acquiring the asset or using it for purposes other than the production of inventories.

Recognition of costs in the carrying amount of an item of property, plant and equipment ceases when the item is in



the location and condition necessary for it to be capable of operating in the manner intended by management.

Items such as spare parts, standby equipment and servicing equipment are recognised when they meet the definition of property, plant and equipment.

Major inspection costs which are a condition of continuing use of an item of property, plant and equipment and which meet the recognition criteria above are included as a replacement in the cost of the item of property, plant and equipment. Any remaining inspection costs from the previous inspection are derecognised.

Property, plant and equipment is carried at cost less accumulated depreciation and any impairment losses.

Property, plant and equipment is depreciated on the straight-line basis over their expected useful lives to their estimated residual value.

The depreciable amount of an asset is allocated on a systematic basis over its useful life.

Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item is depreciated separately.

The depreciation method used reflects the pattern in which the asset's future economic benefits or service potential are expected to be consumed by the entity. The depreciation method applied to an asset is reviewed at least at each reporting date and, if there has been a significant change in the expected pattern of consumption of the future economic benefits or service potential embodied in the asset, the method is changed to reflect the changed pattern. Such a change is accounted for as a change in an accounting estimate.

The entity assesses at each reporting date whether there is any indication that the entity's expectations about the residual value and the useful life of an asset have changed since the preceding reporting date. If any such indication exists, the entity revises the expected useful life and/or residual value accordingly. The change is accounted for as a change in an accounting estimate.

The depreciation charge for each period is recognised in surplus or deficit unless it is included in the carrying amount of another asset.

Items of property, plant and equipment are derecognised when the asset is disposed of or when there are no

further economic benefits or service potential expected from the use of the asset.

The gain or loss arising from the derecognition of an item of property, plant and equipment is included in surplus or deficit when the item is derecognised. The gain or loss arising from the derecognition of an item of property, plant and equipment is determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item.

The entity separately discloses expenditure to repair and maintain property, plant and equipment in the notes to the financial statements (see note 3).

The entity discloses relevant information relating to assets under construction or development, in the notes to the financial statements (see note 3).

1.6 Intangible assets

An asset is identifiable if it either:

- is separable, i.e. is capable of being separated or divided from an entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, identifiable assets or liability, regardless of whether the entity intends to do so; or
- arises from binding arrangements (including rights from contracts), regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.

A binding arrangement describes an arrangement that confers similar rights and obligations on the parties to it as if it were in the form of a contract.

An intangible asset is recognised when:

- it is probable that the expected future economic benefits or service potential that are attributable to the asset will flow to the entity; and
- the cost or fair value of the asset can be measured reliably.

The entity assesses the probability of expected future economic benefits or service potential using reasonable and supportable assumptions that represent management's best estimate of the set of economic conditions that will exist over the useful life of the asset.

Where an intangible asset is acquired through a non-exchange transaction, its initial cost at the date of

acquisition is measured at its fair value as at that date.

Expenditure on research (or on the research phase of an internal project) is recognised as an expense when it is incurred. An intangible asset arising from development (or from the development phase of an internal project) is recognised when:

- it is technically feasible to complete the asset so that it will be available for use or sale;
- there is an intention to complete and use or sell it.
- there is an ability to use or sell it;
- it will generate probable future economic benefits or service potential;
- there are available technical, financial and other resources to complete the development and to use or sell the asset;
- the expenditure attributable to the asset during its development can be measured reliably.

Intangible assets are carried at cost less any accumulated amortisation and any impairment losses.

An intangible asset is regarded as having an indefinite useful life when, based on all relevant factors, there is no foreseeable limit to the period over which the asset is expected to generate net cash inflows or service potential. Amortisation is not provided for these intangible assets, but they are tested for impairment annually and whenever there is an indication that the asset may be impaired. For all other intangible assets, amortisation is provided on a straight-line basis over their useful life.

The amortisation period and the amortisation method for intangible assets are reviewed at each reporting date.

Reassessing the useful life of an intangible asset with a finite useful life after it was classified as indefinite is an indicator that the asset may be impaired. As a result, the asset is tested for impairment and the remaining carrying amount is amortised over its useful life.

Internally generated brands, mastheads, publishing titles, customer lists and items similar in substance are not recognised as intangible assets.

Internally generated goodwill is not recognised as an intangible asset.

Amortisation is provided to write down the intangible assets, on a straight-line basis, to their residual values as follows:

Item	Depreciation	Average useful life
Computer software	Straight-line	3 - 10 years

The entity discloses relevant information relating to assets under construction or development, in the notes to the financial statements (see note 4).

Intangible assets are derecognised:

- on disposal; or
- when no future economic benefits or service potential are expected from its use or disposal.

The gain or loss arising from the derecognition of intangible assets is included in surplus or deficit when the asset is derecognised (unless the Standard of GRAP on leases requires otherwise on a sale and leaseback).

1.7 Heritage assets

Heritage assets are assets that have a cultural, environmental, historical, natural, scientific, technological or artistic significance and are held indefinitely for the benefit of present and future generations.

An inalienable item is an asset that an entity is required by law or otherwise to retain indefinitely and cannot be disposed of without consent.

Recognition

The entity recognises a heritage asset as an asset if it is probable that future economic benefits or service potential associated with the asset will flow to the entity, and the cost or fair value of the asset can be measured reliably.

Initial measurement

Heritage assets are measured at cost.

Where a heritage asset is acquired through a non-exchange transaction, its cost is measured at its fair value as at the date of acquisition.

Subsequent measurement

After recognition as an asset, a class of heritage assets is carried at its cost less any accumulated impairment losses.



Impairment

The entity assesses at each reporting date whether there is an indication that it may be impaired. If any such indication exists, the entity estimates the recoverable amount or the recoverable service amount of the heritage asset.

Transfers

Transfers from heritage assets are only made when the particular asset no longer meets the definition of a heritage asset. Transfers to heritage assets are only made when the asset meets the definition of a heritage asset.

Derecognition

The entity derecognises heritage asset on disposal, or when no future economic benefits or service potential are expected from its use or disposal.

The gain or loss arising from the derecognition of a heritage asset is included in surplus or deficit when the item is derecognised (unless the Standard of GRAP on leases requires otherwise on a sale and leaseback).

1.8 Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or a residual interest of another entity.

The amortised cost of a financial asset or financial liability is the amount at which the financial asset or financial liability is measured at initial recognition minus principal repayments, plus or minus the cumulative amortisation using the effective interest method of any difference between that initial amount and the maturity amount, and minus any reduction (directly or through the use of an allowance account) for impairment or uncollectibility.

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation.

Currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates.

Derecognition is the removal of a previously recognised financial asset or financial liability from an entity's statement of financial position.

The effective interest method is a method of calculating the amortised cost of a financial asset or a financial liability (or group of financial assets or financial liabilities) and of allocating the interest income or interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument or, when appropriate, a shorter period to the net carrying amount of the financial asset or financial liability. When calculating the effective interest rate, an entity shall estimate cash flows considering all contractual terms of the financial instrument (for example, prepayment, call and similar options) but shall not consider future credit losses. The calculation includes all fees and points paid or received between parties to the contract that are an integral part of the effective interest rate, transaction costs, and all other premiums or discounts. There is a presumption that the cash flows and the expected life of a group of similar financial instruments can be estimated reliably. However, in those rare cases when it is not possible to reliably estimate the cash flows or the expected life of a financial instrument (or group of financial instruments), the entity shall use the contractual cash flows over the full contractual term of the financial instrument (or group of financial instruments).

Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable willing parties in an arm's length transaction.

A financial asset is:

- cash;
- a residual interest of another entity; or
- a contractual right to:
 - receive cash or another financial asset from another entity; or
 - exchange financial assets or financial liabilities with another entity under conditions that are potentially favourable to the entity.

A financial liability is any liability that is a contractual obligation to:

- deliver cash or another financial asset to another entity; or
- exchange financial assets or financial liabilities under conditions that are potentially unfavourable to the entity.

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates.

Liquidity risk is the risk encountered by an entity in the event of difficulty in meeting obligations associated with financial liabilities that are settled by delivering cash or another financial asset.

Loans payable are financial liabilities, other than short-term payables on normal credit terms.

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises three types of risk: currency risk, interest rate risk and other price risk.

Other price risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices (other than those arising from interest rate risk or currency risk), whether those changes are caused by factors specific to the individual financial instrument or its issuer, or factors affecting all similar financial instruments traded in the market.

A financial asset is past due when a counterparty has failed to make a payment when contractually due.

Financial instruments at amortised cost are non-derivative financial assets or non-derivative financial liabilities that have fixed or determinable payments, excluding those instruments that:

- the entity designates at fair value at initial recognition; or
- are held for trading.

Financial instruments at cost are investments in residual interests that do not have a quoted market price in an active market, and whose fair value cannot be reliably measured.

Classification

The entity has the following types of financial assets (classes and category) as reflected on the face of the statement of financial position or in the notes thereto:

Class	Category
Trade and other receivables	Financial asset measured at amortised cost
Cash and cash equivalents	Financial asset measured at amortised cost
Grant deposit accounts	Financial asset measured at amortised cost

The entity has the following types of financial liabilities (classes and category) as reflected on the face of the statement of financial position or in the notes thereto:

Class	Category
Trade and other payables	Financial liability measured at amortised cost
Finance leases	Financial liability measured at amortised cost

1.9 Tax

Tax expenses

The NRF is exempt from paying income tax and Value Added Tax (VAT).

1.10 Leases

A lease is classified as a finance lease if it transfers substantially all the risks and rewards incidental to ownership. A lease is classified as an operating lease if it does not transfer substantially all the risks and rewards incidental to ownership.

When a lease includes both land and buildings elements, the entity assesses the classification of each element separately.

Finance leases - lessee

Finance leases are recognised as assets and liabilities in the statement of financial position at amounts equal to the fair value of the leased property or, if lower, the present value of the minimum lease payments. The corresponding liability to the lessor is included in the statement of financial position as a finance lease obligation.

The discount rate used in calculating the present value of the minimum lease payments is the interest rate implicit in the lease.

Minimum lease payments are apportioned between the finance charge and reduction of the outstanding liability. The finance charge is allocated to each period during the lease term so as to produce a constant periodic rate on the remaining balance of the liability.

Any contingent rents are expensed in the period in which they are incurred.



Operating leases - lessor

Operating lease revenue is recognised as revenue on a straight-line basis over the lease term.

Initial direct costs incurred in negotiating and arranging operating leases are added to the carrying amount of the leased asset and recognised as an expense over the lease term on the same basis as the lease revenue.

Income for leases is disclosed under revenue in statement of financial performance.

Operating leases - lessee

Operating lease payments are recognised as an expense on a straight-line basis over the lease term. The difference between the amounts recognised as an expense and the contractual payments are recognised as an operating lease asset or liability.

1.11 Inventories

Inventories are initially measured at cost except where inventories are acquired through a non-exchange transaction, then their costs are their fair value as at the date of acquisition.

Subsequently inventories, are measured at the lower of cost and net realisable value.

Inventories are measured at the lower of cost and current replacement cost where they are held for:

- distribution at no charge or for a nominal charge; or
- consumption in the production process of goods to be distributed at no charge or for a nominal charge.

Net realisable value is the estimated selling price in the ordinary course of operations less the estimated costs of completion and the estimated costs necessary to make the sale, exchange or distribution.

Current replacement cost is the cost the entity incurs to acquire the asset on the reporting date.

The cost of inventories comprises all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition.

The cost of inventories is assigned using the first-in, first-out (FIFO) formula. The same cost formula is used for all inventories having a similar nature and use to the entity.

When inventories are sold, the carrying amounts of those inventories are recognised as an expense in the period in which the related revenue is recognised. If there is no related revenue, the expenses are recognised when the goods are distributed, or related services are rendered. The amount of any write-down of inventories to net realisable value or current replacement cost and all losses of inventories are recognised as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories, arising from an increase in net realisable value or current replacement cost, are recognised as a reduction in the amount of inventories recognised as an expense in the period in which the reversal occurs.

1.12 Impairment of cash-generating assets

Cash-generating assets are assets used with the objective of generating a commercial return. Commercial return means that positive cash flows are expected to be significantly higher than the cost of the asset.

Impairment is a loss in the future economic benefits or service potential of an asset, over and above the systematic recognition of the loss of the asset's future economic benefits or service potential through depreciation (amortisation).

Carrying amount is the amount at which an asset is recognised in the statement of financial position after deducting any accumulated depreciation and accumulated impairment losses thereon.

A cash-generating unit is the smallest identifiable group of assets used with the objective of generating a commercial return that generates cash inflows from continuing use that are largely independent of the cash inflows from other assets or groups of assets.

Identification

When the carrying amount of a cash-generating asset exceeds its recoverable amount, it is impaired.

The entity assesses at each reporting date whether there is any indication that a cash-generating asset may be impaired. If any such indication exists, the entity estimates the recoverable amount of the asset.

Irrespective of whether there is any indication of impairment, the entity also tests a cash-generating intangible asset with an indefinite useful life or a cash-generating intangible asset not yet available for use for impairment annually by comparing its carrying amount

with its recoverable amount. This impairment test is performed at the same time every year. If an intangible asset was initially recognised during the current reporting period, that intangible asset was tested for impairment before the end of the current reporting period.

Value in use

Value in use of a cash-generating asset is the present value of the estimated future cash flows expected to be derived from the continuing use of an asset and from its disposal at the end of its useful life.

When estimating the value in use of an asset, the entity estimates the future cash inflows and outflows to be derived from continuing use of the asset and from its ultimate disposal and the entity applies the appropriate discount rate to those future cash flows.

Discount rate

The discount rate is a pre-tax rate that reflects current market assessments of the time value of money, represented by the current risk-free rate of interest and the risks specific to the asset for which the future cash flow estimates have not been adjusted.

Recognition and measurement (individual asset)

If the recoverable amount of a cash-generating asset is less than its carrying amount, the carrying amount of the asset is reduced to its recoverable amount. This reduction is an impairment loss.

An impairment loss is recognised immediately in surplus or deficit.

When the amount estimated for an impairment loss is greater than the carrying amount of the cash-generating asset to which it relates, the entity recognises a liability only to the extent that is a requirement in the Standard of GRAP.

After the recognition of an impairment loss, the depreciation (amortisation) charge for the cash-generating asset is adjusted in future periods to allocate the cash-generating asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

Cash-generating units

If there is any indication that an asset may be impaired, the recoverable amount is estimated for the individual

asset. If it is not possible to estimate the recoverable amount of the individual asset, the entity determines the recoverable amount of the cash-generating unit to which the asset belongs (the asset's cash-generating unit).

If an active market exists for the output produced by an asset or group of assets, that asset or group of assets is identified as a cash-generating unit, even if some or all of the output is used internally. If the cash inflows generated by any asset or cash-generating unit are affected by internal transfer pricing, the entity uses management's best estimate of future price(s) that could be achieved in arm's length transactions in estimating:

- the future cash inflows used to determine the asset's or cash-generating unit's value in use; and
- the future cash outflows used to determine the value in use of any other assets or cash-generating units that are affected by the internal transfer pricing.

Cash-generating units are identified consistently from period to period for the same asset or types of assets, unless a change is justified.

The carrying amount of a cash-generating unit is determined on a basis consistent with the way the recoverable amount of the cash-generating unit is determined.

An impairment loss is recognised for a cash-generating unit if the recoverable amount of the unit is less than the carrying amount of the unit. The impairment is allocated to reduce the carrying amount of the cash-generating assets of the unit on a pro rata basis, based on the carrying amount of each asset in the unit. These reductions in carrying amounts are treated as impairment losses on individual assets.

In allocating an impairment loss, the entity does not reduce the carrying amount of an asset below the highest of:

- its fair value less costs to sell (if determinable);
- its value in use (if determinable); and
- zero.

The amount of the impairment loss that would otherwise have been allocated to the asset is allocated pro rata to the other cash-generating assets of the unit.

Where a non-cash-generating asset contributes to a cash-generating unit, a proportion of the carrying



amount of that non-cash-generating asset is allocated to the carrying amount of the cash-generating unit prior to estimation of the recoverable amount of the cash-generating unit.

Reversal of impairment loss

The entity assesses at each reporting date whether there is any indication that an impairment loss recognised in prior periods for a cash-generating asset may no longer exist or may have decreased. If any such indication exists, the entity estimates the recoverable amount of that asset.

An impairment loss recognised in prior periods for a cash-generating asset is reversed if there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment loss was recognised. The carrying amount of the asset is increased to its recoverable amount. The increase is a reversal of an impairment loss. The increased carrying amount of an asset attributable to a reversal of an impairment loss does not exceed the carrying amount that would have been determined (net of depreciation or amortisation) had no impairment loss been recognised for the asset in prior periods.

A reversal of an impairment loss for a cash-generating asset is recognised immediately in surplus or deficit.

After a reversal of an impairment loss is recognised, the depreciation (amortisation) charge for the cash-generating asset is adjusted in future periods to allocate the cash-generating asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

A reversal of an impairment loss for a cash-generating unit is allocated to the cash-generating assets of the unit pro rata with the carrying amounts of those assets. These increases in carrying amounts are treated as reversals of impairment losses for individual assets. No part of the amount of such a reversal is allocated to a non-cash-generating asset contributing service potential to a cash-generating unit.

In allocating a reversal of an impairment loss for a cash-generating unit, the carrying amount of an asset is not increased above the lower of:

- its recoverable amount (if determinable); and
- the carrying amount that would have been determined (net of amortisation or depreciation) had

no impairment loss been recognised for the asset in prior periods.

The amount of the reversal of the impairment loss that would otherwise have been allocated to the asset is allocated pro rata to the other assets of the unit.

Redesignation

The redesignation of assets from a cash-generating asset to a non-cash-generating asset or from a non-cash-generating asset to a cash-generating asset only occurs when there is clear evidence that such a redesignation is appropriate.

1.13 Impairment of non-cash-generating assets

Non-cash-generating assets are assets other than cash-generating assets.

Impairment is a loss in the future economic benefits or service potential of an asset, over and above the systematic recognition of the loss of the asset's future economic benefits or service potential through depreciation (amortisation).

Identification

When the carrying amount of a non-cash-generating asset exceeds its recoverable service amount, it is impaired.

The entity assesses at each reporting date whether there is any indication that a non-cash-generating asset may be impaired. If any such indication exists, the entity estimates the recoverable service amount of the asset.

Irrespective of whether there is any indication of impairment, the entity also tests a non-cash-generating intangible asset with an indefinite useful life or a non-cash-generating intangible asset not yet available for use for impairment annually by comparing its carrying amount with its recoverable service amount. This impairment test is performed at the same time every year. If an intangible asset was initially recognised during the current reporting period, that intangible asset was tested for impairment before the end of the current reporting period.

Value in use

Value in use of non-cash-generating assets is the present value of the non-cash-generating assets remaining service potential.

Recognition and measurement

If the recoverable service amount of a non-cash-generating asset is less than its carrying amount, the carrying amount of the asset is reduced to its recoverable service amount. This reduction is an impairment loss.

An impairment loss is recognised immediately in surplus or deficit.

When the amount estimated for an impairment loss is greater than the carrying amount of the non-cash-generating asset to which it relates, the entity recognises a liability only to the extent that is a requirement in the Standards of GRAP.

After the recognition of an impairment loss, the depreciation (amortisation) charge for the non-cash-generating asset is adjusted in future periods to allocate the non-cash-generating asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

Reversal of an impairment loss

The entity assesses at each reporting date whether there is any indication that an impairment loss recognised in prior periods for a non-cash-generating asset may no longer exist or may have decreased. If any such indication exists, the entity estimates the recoverable service amount of that asset.

An impairment loss recognised in prior periods for a non-cash-generating asset is reversed if there has been a change in the estimates used to determine the asset's recoverable service amount since the last impairment loss was recognised. The carrying amount of the asset is increased to its recoverable service amount. The increase is a reversal of an impairment loss. The increased carrying amount of an asset attributable to a reversal of an impairment loss does not exceed the carrying amount that would have been determined (net of depreciation or amortisation) had no impairment loss been recognised for the asset in prior periods.

A reversal of an impairment loss for a non-cash-generating asset is recognised immediately in surplus or deficit.

After a reversal of an impairment loss is recognised, the depreciation (amortisation) charge for the non-cash-generating asset is adjusted in future periods to allocate

the non-cash-generating asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

1.14 Grant deposits

The NRF advances funding to higher education and research institutions in the form of grant deposits. The advances are calculated based on the expected grant awards for the year. The balance is reviewed annually by the NRF to determine the adequacy of the amount. The advances are done in order to facilitate adequate cash flow for the grant-making process at these institutions. Grant deposits must be preserved and maintained at the approved normal level. Per agreement, the interest earned on the grant deposits by the institutions is used to fund administration costs, inclusive of staff of the institutions that are dedicated to the NRF grant administration process. Should the interest earned be more than funding requisites to fund extra human capacity for staff supporting NRF projects, the institution has the right to utilise such amounts for research purposes as it deems appropriate. The approved normal level of grant deposits are repayable to the NRF on 30 days' notice in an event of the funding being discontinued.

1.15 Grants paid in advance

Grant advances to grant holders represent advances paid on specific grant awards, for which the conditions of grants were finalised, and the specific grant awards released by the NRF. The balance of the grant advances is depleted as and when the recognition criteria for grants and bursaries expenditure are met, i.e. approved and validated claims.

1.16 Employee benefits

Employee benefits are all forms of consideration given by an entity in exchange for service rendered by employees. Termination benefits are employee benefits payable as a result of either:

- an entity's decision to terminate an employee's employment before the normal retirement date; or
- an employee's decision to accept voluntary redundancy in exchange for those benefits.

Other long-term employee benefits are employee benefits (other than post-employment benefits and



termination benefits) that are not due to be settled within twelve months after the end of the period in which the employees render the related service.

Vested employee benefits are employee benefits that are not conditional on future employment.

Short-term employee benefits

Short-term employee benefits are employee benefits (other than termination benefits) that are due to be settled within twelve months after the end of the period in which the employees render the related service.

Short-term employee benefits include items such as:

- wages, salaries and social security contributions;
- short-term compensated absences (such as paid annual leave and paid sick leave) where the compensation for the absences is due to be settled within twelve months after the end of the reporting period in which the employees render the related employee service;
- bonus, incentive and performance related payments payable within twelve months after the end of the reporting period in which the employees render the related service; and
- non-monetary benefits (for example, medical care, and free or subsidised goods or services such as housing, cars and cellphones) for current employees.

When an employee has rendered service to the entity during a reporting period, the entity recognises the undiscounted amount of short-term employee benefits expected to be paid in exchange for that service:

- as a liability (accrued expense), after deducting any amount already paid. If the amount already paid exceeds the undiscounted amount of the benefits, the entity recognises that excess as an asset (prepaid expense) to the extent that the prepayment will lead to, for example, a reduction in future payments or a cash refund; and
- as an expense, unless another standard requires or permits the inclusion of the benefits in the cost of an asset.

The expected cost of compensated absences is recognised as an expense as the employees render services that increase their entitlement or, in the case of non-accumulating absences, when the absence occurs. The entity measures the expected cost of accumulating compensated absences as the additional amount that

the entity expects to pay as a result of the unused entitlement that has accumulated at the reporting date.

The entity recognises the expected cost of bonus, incentive and performance related payments when the entity has a present legal or constructive obligation to make such payments as a result of past events and a reliable estimate of the obligation can be made. A present obligation exists when the entity has no realistic alternative but to make the payments.

Post-employment benefits

Post-employment benefits are employee benefits (other than termination benefits) which are payable after the completion of employment.

Post-employment benefit plans are formal or informal arrangements under which an entity provides post-employment benefits for one or more employees.

Post-employment benefits: Defined contribution plans

Defined contribution plans are post-employment benefit plans under which an entity pays fixed contributions into a separate entity (a fund) and will have no legal or constructive obligation to pay further contributions if the fund does not hold sufficient assets to pay all employee benefits relating to employee service in the current and prior periods.

When an employee has rendered service to the entity during a reporting period, the entity recognises the contribution payable to a defined contribution plan in exchange for that service:

- as a liability (accrued expense), after deducting any contribution already paid. If the contribution already paid exceeds the contribution due for service before the reporting date, an entity recognises that excess as an asset (prepaid expense) to the extent that the prepayment will lead to, for example, a reduction in future payments or a cash refund; and
- as an expense, unless another Standard requires or permits the inclusion of the contribution in the cost of an asset.

Where contributions to a defined contribution plan do not fall due wholly within twelve months after the end of the reporting period in which the employees render the related service, they are discounted. The rate used to discount reflects the time value of money. The currency and term of the financial instrument selected to reflect

the time value of money is consistent with the currency and estimated term of the obligation.

Actuarial assumptions

Actuarial assumptions are unbiased and mutually compatible.

Financial assumptions are based on market expectations, at the reporting date, for the period over which the obligations are to be settled.

The rate used to discount post-employment benefit obligations (both funded and unfunded) reflect the time value of money. The currency and term of the financial instrument selected to reflect the time value of money is consistent with the currency and estimated term of the post-employment benefit obligations.

Post-employment benefit obligations are measured on a basis that reflects:

- estimated future salary increases;
- the benefits set out in the terms of the plan (or resulting from any constructive obligation that goes beyond those terms) at the reporting date; and
- estimated future changes in the level of any state benefits that affect the benefits payable under a defined benefit plan, if, and only if, either:
 - those changes were enacted before the reporting date; or
 - past history, or other reliable evidence, indicates that those state benefits will change in some predictable manner, for example, in line with future changes in general price levels or general salary levels.

Assumptions about medical costs take account of estimated future changes in the cost of medical services, resulting from both inflation and specific changes in medical costs.

Other post retirement obligations

The entity provides post-retirement health care benefits upon retirement to some retirees.

The entitlement to post-retirement health care benefits is based on the employee remaining in service up to retirement age and the completion of a minimum service period. The expected costs of these benefits are accrued over the period of employment. Independent qualified actuaries carry out valuations of these obligations at least every three years.

The amount recognised as a liability for other long-term employee benefits is the net total of the following amounts:

- the present value of the defined benefit obligation at the reporting date;
- minus the fair value at the reporting date of plan assets (if any) out of which the obligations are to be settled directly.

The entity shall recognise the net total of the following amounts as expense or revenue, except to the extent that another Standard requires or permits their inclusion in the cost of an asset:

- current service cost;
- interest cost;
- the expected return on any plan assets and on any reimbursement right recognised as an asset;
- actuarial gains and losses, which shall all be recognised immediately;
- past service cost, which shall all be recognised immediately; and
- the effect of any curtailments or settlements.

1.17 Provisions and contingencies

Provisions are recognised when:

- the entity has a present obligation as a result of a past event;
- it is probable that an outflow of resources embodying economic benefits or service potential will be required to settle the obligation; and
- a reliable estimate can be made of the obligation.

The amount of a provision is the best estimate of the expenditure expected to be required to settle the present obligation at the reporting date.

Where the effect of time value of money is material, the amount of a provision is the present value of the expenditures expected to be required to settle the obligation.

Where some or all of the expenditure required to settle a provision is expected to be reimbursed by another party, the reimbursement is recognised when, and only when, it is virtually certain that reimbursement will be received if the entity settles the obligation. The reimbursement is treated as a separate asset. The amount recognised for the reimbursement does not exceed the amount of the provision.



Provisions are reviewed at each reporting date and adjusted to reflect the current best estimate. Provisions are reversed if it is no longer probable that an outflow of resources embodying economic benefits or service potential will be required, to settle the obligation.

Where discounting is used, the carrying amount of a provision increases in each period to reflect the passage of time. This increase is recognised as an interest expense.

A provision is used only for expenditures for which the provision was originally recognised. Provisions are not recognised for future operating surplus (deficit).

If an entity has a contract that is onerous, the present obligation (net of recoveries) under the contract is recognised and measured as a provision.

Contingent assets and contingent liabilities are not recognised. Contingencies are disclosed in note 32.

1.18 Commitments

Items are classified as commitments when an entity has committed itself to future transactions that will normally result in the outflow of cash.

Disclosures are required in respect of unrecognised contractual commitments.

Commitments for which disclosure is necessary to achieve a fair presentation should be disclosed in a note to the financial statements, if both the following criteria are met:

- Contracts should be non-cancellable or only cancellable at significant cost (for example, contracts for computer or building maintenance services); and
- Contracts should relate to something other than the routine, steady, state business of the entity – therefore salary commitments relating to employment contracts or social security benefit commitments are excluded.

1.19 Revenue from exchange transactions

Revenue is the gross inflow of economic benefits or service potential during the reporting period when those inflows result in an increase in net assets.

An exchange transaction is one in which the entity receives assets or services, or has liabilities extinguished, and directly gives approximately equal value (primarily in

the form of goods, services or use of assets) to the other party in exchange.

Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction.

Measurement

Revenue is measured at the fair value of the consideration received or receivable, net of trade discounts and volume rebates.

Sale of goods

Revenue from the sale of goods is recognised when all the following conditions have been satisfied:

- the entity has transferred to the purchaser the significant risks and rewards of ownership of the goods;
- the entity retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold;
- the amount of revenue can be measured reliably;
- it is probable that the economic benefits or service potential associated with the transaction will flow to the entity; and
- the costs incurred or to be incurred in respect of the transaction can be measured reliably.

Rendering of services

When the outcome of a transaction involving the rendering of services can be estimated reliably, revenue associated with the transaction is recognised by reference to the stage of completion of the transaction at the reporting date. The outcome of a transaction can be estimated reliably when all the following conditions are satisfied:

- the amount of revenue can be measured reliably;
- it is probable that the economic benefits or service potential associated with the transaction will flow to the entity;
- the stage of completion of the transaction at the reporting date can be measured reliably; and
- the costs incurred for the transaction and the costs to complete the transaction can be measured reliably.

When services are performed by an indeterminate number of acts over a specified time frame, revenue is recognised on a straight-line basis over the specified time frame unless there is evidence that some other

method better represents the stage of completion. When a specific act is much more significant than any other acts, the recognition of revenue is postponed until the significant act is executed.

When the outcome of the transaction involving the rendering of services cannot be estimated reliably, revenue is recognised only to the extent of the expenses recognised that are recoverable.

Service revenue is recognised by reference to the stage of completion of the transaction at the reporting date. Stage of completion is determined by services performed to date as a percentage of total services to be performed.

Interest, royalties and dividends

Revenue arising from the use by others of entity assets yielding interest is recognised when:

- It is probable that the economic benefits or service potential associated with the transaction will flow to the entity, and
- The amount of the revenue can be measured reliably.

Interest is recognised using the effective interest rate method.

1.20 Revenue from non-exchange transactions

Revenue comprises gross inflows of economic benefits or service potential received and receivable by an entity, which represents an increase in net assets, other than increases relating to contributions from owners.

Conditions on transferred assets are stipulations that specify that the future economic benefits or service potential embodied in the asset is required to be consumed by the recipient as specified or future economic benefits or service potential must be returned to the transferor.

Non-exchange transactions are transactions that are not exchange transactions. In a non-exchange transaction, an entity either receives value from another entity without directly giving approximately equal value in exchange, or gives value to another entity without directly receiving approximately equal value in exchange.

Recognition

An inflow of resources from a non-exchange transaction

recognised as an asset is recognised as revenue, except to the extent that a liability is also recognised in respect of the same inflow.

As the entity satisfies a present obligation recognised as a liability in respect of an inflow of resources from a non-exchange transaction recognised as an asset, it reduces the carrying amount of the liability recognised and recognises an amount of revenue equal to that reduction.

Measurement

Revenue from a non-exchange transaction is measured at the amount of the increase in net assets recognised by the entity.

When, as a result of a non-exchange transaction, the entity recognises an asset, it also recognises revenue equivalent to the amount of the asset measured at its fair value as at the date of acquisition, unless it is also required to recognise a liability. Where a liability is required to be recognised it will be measured as the best estimate of the amount required to settle the obligation at the reporting date, and the amount of the increase in net assets, if any, recognised as revenue. When a liability is subsequently reduced, because the taxable event occurs or a condition is satisfied, the amount of the reduction in the liability is recognised as revenue.

Gifts and donations, including goods in kind

Gifts and donations, including goods in kind, are recognised as assets and revenue when it is probable that the future economic benefits or service potential will flow to the entity and the fair value of the assets can be measured reliably.

Government grants and contract income

Government grants and contract income are recognised in the Statement of Financial Performance, in the period to which the income relates. The government grant and contract income are recognised if there is reasonable assurance that the entity will comply with the conditions attached to the grant or contract, and that the grant or contract income will be received.

The portion of government grants and contract income that is earmarked for a specific purpose and thus conditional, relating to expenditure that will be incurred



in future financial years, is reflected as income received in advance in the Statement of Financial Position, as it represents an actual liability if conditions are not met.

1.21 Cost of sales

When inventories are sold, the carrying amount of those inventories is recognised as an expense in the period in which the related revenue is recognised. The amount of any write-down of inventories to net realisable value and all surplus (deficit) of inventories are recognised as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories, arising from an increase in net realisable value, is recognised as a reduction in the amount of inventories recognised as an expense in the period in which the reversal occurs.

The related cost of providing services recognised as revenue in the current period is included in cost of sales.

Contract costs comprise:

- costs that relate directly to the specific contract;
- costs that are attributable to contract activity in general and can be allocated to the contract on a systematic and rational basis; and
- such other costs as are specifically chargeable to the customer under the terms of the contract.

1.22 Grants, bursaries and other research expenditure

Grants, bursaries and other research awarded are recognised as expenditure in the Statement of Financial Performance in the period in which the grants, bursaries and other research are claimed and validated. Included in grants, bursaries and other research are membership affiliations to research science and technology organisations and councils as well as the funding for science activities.

1.23 Investment income

Investment income is recognised on a time-proportion basis using the effective interest method.

1.24 Translation of foreign currencies Foreign currency transactions

A foreign currency transaction is recorded, on initial recognition in Rands, by applying to the foreign currency amount the spot exchange rate between the functional currency and the foreign currency at the date of the transaction.

At each reporting date:

- foreign currency monetary items are translated using the closing rate;
- non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the transaction; and
- non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined.

Exchange differences arising on the settlement of monetary items or on translating monetary items at rates different from those at which they were translated on initial recognition during the period or in previous annual financial statements are recognised in surplus or deficit in the period in which they arise.

Cash flows arising from transactions in a foreign currency are recorded in Rands by applying to the foreign currency amount the exchange rate between the Rand and the foreign currency at the date of the cash flow.

1.25 Comparative figures

Where necessary, comparative figures have been reclassified to conform to changes in presentation in the current year.

1.26 Fruitless and wasteful expenditure

Fruitless expenditure means expenditure which was made in vain and would have been avoided had reasonable care been exercised.

All expenditure relating to fruitless and wasteful expenditure is recognised as an expense in the statement of financial performance in the year that the expenditure was incurred. The expenditure is classified in accordance with the nature of the expense, and where recovered, it is subsequently accounted for as revenue in the statement of financial performance.

1.27 Irregular expenditure

Irregular expenditure as defined in section 1 of the PFMA is expenditure other than unauthorised expenditure, incurred in contravention of or that is not in accordance with a requirement of any applicable legislation, including this Act,

1.28 Segment information

A segment is an activity of an entity:

- that generates economic benefits or service potential (including economic benefits or service potential relating to transactions between activities of the same entity);
- whose results are regularly reviewed by management to make decisions about resources to be allocated to that activity and in assessing its performance; and
- for which separate financial information is available.

Reportable segments are the actual segments which are reported on in the segment report. They are the segments identified above or alternatively an aggregation of two or more of those segments where the aggregation criteria are met.

Measurement

The amount of each segment item reported is the measure reported to management for the purposes of making decisions about allocating resources to the segment and assessing its performance. Adjustments and eliminations made in preparing the entity's financial statements and allocations of revenues and expenses are included in determining reported segment surplus or deficit only if they are included in the measure of the segment's surplus or deficit that is used by management. Similarly, only those assets and liabilities that are included in the measures of the segment's assets and segment's liabilities that are used by management are reported for that segment. If amounts are allocated to reported segment surplus or deficit, assets or liabilities, those amounts are allocated on a reasonable basis.

If management uses only one measure of a segment's surplus or deficit, the segment's assets or the segment's liabilities in assessing segment performance and deciding how to allocate resources, segment surplus or deficit, assets and liabilities are reported in terms of that measure. If management uses more than one measure of a segment's surplus or deficit, the segment's assets or the segment's liabilities, the reported measures are those that management believes are determined in accordance with the measurement principles most consistent with those used in measuring the corresponding amounts in the entity's financial statements.

1.29 Research and development expenditure

Expenditure on research is recognised as an expense when it is incurred. An asset arising from development is recognised when:

- it is technically feasible to complete the asset so that it will be available for use or sale;
- there is an intention to complete and use or sell it;
- there is an ability to use or sell it;
- it will generate probable future economic benefits or service potential;
- there are available technical, financial and other resources to complete the development and to use or sell the asset;
- the expenditure attributable to the asset during its development can be measured reliably.

1.30 Budget information

An entity is typically subject to budgetary limits in the form of appropriations or budget authorisations (or equivalent), which is given effect through authorising legislation, appropriation or similar.

General purpose financial reporting by the entity shall provide information on whether resources were obtained and used in accordance with the legally adopted budget.

The approved budget is prepared on a accrual basis and presented by economic classification linked to performance outcome objectives.

The approved budget covers the fiscal period from 4/1/2020 to 3/31/2021.

The budget for the economic entity includes all the entities approved budgets under its control.

The annual financial statements and the budget are on the same basis of accounting therefore a comparison with the budgeted amounts for the reporting period have been included in the statement of comparison of budget and actual amounts.

Comparative information is not required.



1.31 Related parties

A related party is a person or an entity with the ability to control or jointly control the other party, or exercise significant influence over the other party, or vice versa, or an entity that is subject to common control, or joint control.

Control is the power to govern the financial and operating policies of an entity so as to obtain benefits from its activities.

A related party transaction is a transfer of resources, services or obligations between the reporting entity and a related party, regardless of whether a price is charged.

Significant influence is the power to participate in the financial and operating policy decisions of an entity, but is not control over those policies.

Key management are those persons responsible for planning, directing and controlling the activities of the entity, including those charged with the governance of the entity in accordance with legislation, in instances where they are required to perform such functions. All individuals from the level of Corporate Executive up to the Board of Directors are regarded as key management.

Close members of the family of a person are those family members who may be expected to influence, or be influenced by that person in their dealings with the entity.

The entity is exempt from disclosure requirements in relation to related party transactions if that transaction occurs within normal supplier and/or client/recipient relationships on terms and conditions no more or less favourable than those which it is reasonable to expect the entity to have adopted if dealing with that individual entity or person in the same circumstances and terms and conditions are within the normal operating parameters established by that reporting entity's legal mandate.

Where the entity is exempt from the disclosures in accordance with the above, the entity discloses narrative information about the nature of the transactions and the related outstanding balances, to enable users of the entity's financial statements to understand the effect of related party transactions on its annual financial statements.

The entity operates in an economic sector currently dominated by entities directly or indirectly owned by the South African Government. As a consequence of the constitutional independence of the three spheres of government in South Africa, only entities within the national sphere of government are considered to be related parties.

1.32 Events after reporting date

Events after reporting date are those events, both favourable and unfavourable, that occur between the reporting date and the date when the financial statements are authorised for issue. Two types of events can be identified:

- those that provide evidence of conditions that existed at the reporting date (adjusting events after the reporting date); and
- those that are indicative of conditions that arose after the reporting date (non-adjusting events after the reporting date).

The entity will adjust the amount recognised in the financial statements to reflect adjusting events after the reporting date once the event occurred.

The entity will disclose the nature of the event and an estimate of its financial effect or a statement that such estimate cannot be made in respect of all material non-adjusting events, where non-disclosure could influence the economic decisions of users taken on the basis of the financial statements.

1.33 Capital fund

The proportion of income used to acquire property, plant and equipment, intangible assets and heritage assets is transferred to the Capital fund from the Accumulated surplus/(deficit) in the proportions and over the periods in which depreciation/amortisation on such property, plant and equipment, intangible assets or heritage assets is charged or when the asset is retired.

1.34 Infrastructure fund

This fund represents funds set aside to fund future infrastructure and related projects. It can also be utilised for the decommissioning of assets, where applicable.

2. New standards and interpretations

2.1 Standards and interpretations issued, but not yet effective

The entity has not applied the following standards and interpretations, which have been published and are mandatory for the entity's accounting periods beginning on or after 1 April 2021 or later periods:

Standard/ Interpretation:	Effective date: Years	Expected impact:
• GRAP 104 (amended): Financial Instruments	No effective date	Unlikely there will be a material impact
• GRAP 20: Related parties	1 April 2021	Unlikely there will be a material impact

Notes to the financial statements

Figures in rand thousand

3. Property, plant and equipment

	2021			2020		
	Cost / Valuation	Accumulated depreciation and accumulated impairment	Carrying value	Cost / Valuation	Accumulated depreciation and accumulated impairment	Carrying value
Land	307,735	-	307,735	307,736	-	307,736
Buildings	415,947	(122,147)	293,800	415,174	(106,342)	308,832
Plant and machinery	98,368	(42,332)	56,036	90,710	(34,598)	56,112
Furniture and fixtures	30,026	(18,358)	11,668	29,029	(16,798)	12,231
Motor vehicles	72,069	(44,126)	27,943	69,909	(37,897)	32,012
Office equipment	65,663	(48,868)	16,795	64,744	(44,134)	20,610
IT equipment	210,470	(162,126)	48,344	209,038	(144,728)	64,310
Computer software	106,054	(91,526)	14,528	102,577	(77,684)	24,893
Infrastructure	370,346	(104,754)	265,592	356,798	(84,160)	272,638
Exhibits	6,287	(4,055)	2,232	7,735	(4,759)	2,976
Capital work in progress	152,639	-	152,639	112,392	-	112,392
Research equipment	2,016,114	(852,837)	1,163,277	1,928,345	(686,543)	1,241,802
Spare parts	29,675	(7,269)	22,406	29,675	(4,586)	25,089
Books and journals	1,456	(698)	758	1,246	(510)	736
Total	3,882,849	(1,499,096)	2,383,753	3,725,108	(1,242,739)	2,482,369



Notes to the financial statements

Figures in rand thousand

Reconciliation of property, plant and equipment - 2021

	Opening balance	Additions	Disposals	Transfers	Depreciation	Impairment loss	Total
Land	307,736	-	(1)	-	-	-	307,735
Buildings	308,832	445	-	329	(15,806)	-	293,800
Plant and machinery	56,112	6,353	(12)	1,619	(7,880)	(156)	56,036
Furniture and fixtures	12,231	1,428	(47)	25	(1,969)	-	11,668
Motor vehicles	32,012	1,166	-	994	(6,229)	-	27,943
Office equipment	20,610	1,587	(48)	113	(5,467)	-	16,795
IT equipment	64,310	12,451	(2,653)	461	(26,225)	-	48,344
Computer software	24,893	1,768	-	1,709	(13,842)	-	14,528
Infrastructure	272,638	112	-	13,435	(20,593)	-	265,592
Exhibits	2,976	149	(306)	-	(587)	-	2,232
Capital work in progress	112,392	93,741	-	(53,494)	-	-	152,639
Research equipment	1,241,802	53,580	(179)	34,809	(166,735)	-	1,163,277
Spare parts	25,089	-	-	-	(2,683)	-	22,406
Books and journals	736	210	-	-	(188)	-	758
	2,482,369	172,990	(3,246)	-	(268,204)	(156)	2,383,753

Reconciliation of property, plant and equipment - 2020

	Opening balance	Additions	Disposals	Transfers	Depreciation	Total
Land	307,736	-	-	-	-	307,736
Buildings	319,260	5,454	-	-	(15,882)	308,832
Plant and machinery	46,686	16,305	(30)	34	(6,883)	56,112
Furniture and fixtures	12,181	2,060	(66)	59	(2,003)	12,231
Motor vehicles	26,614	12,429	(420)	-	(6,611)	32,012
Office equipment	21,126	5,035	(59)	101	(5,593)	20,610
IT equipment	68,663	17,695	(506)	8,601	(30,143)	64,310
Computer software	42,847	-	-	-	(17,954)	24,893
Infrastructure	281,489	605	-	10,849	(20,305)	272,638
Exhibits	3,640	12	(22)	-	(654)	2,976
Capital work in progress	98,503	53,046	-	(39,157)	-	112,392
Research equipment	1,325,488	57,415	(521)	19,513	(160,093)	1,241,802
Spare parts	23,899	3,591	-	-	(2,401)	25,089
Books and journals	863	34	-	-	(161)	736
	2,578,995	173,681	(1,624)	-	(268,683)	2,482,369

Notes to the financial statements

Figures in rand thousand

Depreciation rates

The depreciation methods and average useful lives of property, plant and equipment have been assessed as follows:

Item	Depreciation method	Average useful life
Buildings	Straight-line	5 - 50 years
Machinery and equipment	Straight-line	4 - 31 years
Office furniture	Straight-line	3 - 48 years
Motor vehicles	Straight-line	5 - 13 years
Office equipment	Straight-line	2 - 25 years
IT equipment	Straight-line	3 - 13 years
Computer software	Straight-line	3 - 10 years
Infrastructure	Straight-line	5 - 25 years
Exhibits	Straight-line	3 - 10 years
Books and journals	Straight-line	5 - 10 years
Research equipment	Straight-line	2 - 31 years
Leased assets	Straight-line	3 - 5 years
Spare parts	Straight-line	10 years



Notes to the financial statements

Figures in rand thousand

Details of properties

	2021 '000	2020 '000
Portion 1 of the farm Scientia No 627, Pretoria, with buildings thereon		
Land	1,277	1,277
Buildings	121,481	121,387
	122,758	122,664
Portion 4 of the farm No 996, Blue Downs, Stellenbosch, with buildings thereon		
Land	9,717	9,717
Buildings	30,256	30,256
	39,973	39,973
Portion 6 of the farm Kuilenburg No 96, Sutherland, with buildings thereon		
Land	346	346
Buildings	11,546	11,505
	11,892	11,851
Erf 26423, Observatory, Cape Town, with buildings thereon		
Land	263	263
Buildings	7,971	7,761
	8,234	8,024
Astronomy reserve properties for SKA project, Carnarvon (former farms - register available)		
Land	276,638	276,638
Buildings	35,563	34,841
	312,201	311,479
Stand No 2859, 211 Nana Sita Street, Pretoria		
Land	92	92
Buildings	1,866	1,866
	1,958	1,958
Portion 1 of Erf 1, Observatory, Johannesburg		
Land	1,685	1,685
Buildings	9,784	9,784
	11,469	11,469
Portion 1 of the former farm Losberg No 73, Fraserburg Regional District		
Land	7,797	7,797
Buildings	134,175	134,029
	141,972	141,826

Notes to the financial statements

	2021 '000	2020 '000
Mey's Dam Farm No 68, Fraserburg Regional District		
Land	8,721	8,721
Buildings	9,550	9,550
	18,271	18,271
Leasehold improvements - HartRAO		
Capitalised expenditure	3,684	3,427
Leasehold improvements - SAIAB		
Capitalised expenditure	30,807	30,807
Leasehold improvements - SKA Klerefontein		
Capitalised expenditure	11,314	12,020
Leasehold improvements - SAEON		
Capitalised expenditure	2,000	2,000
56 Florence street, Colbyn, Pretoria - SAEON		
Land	1,200	1,200
Building	5,950	5,941
	7,150	7,141
Total cost of land and buildings	723,683	722,910

All property in Carnarvon is former farm land. These farms are not operational, but astronomy reserve for the SKA project.

The land and buildings situated in Pretoria, on the CSIR campus, are subject to a pre-emptive right in favour of the CSIR should the NRF decide to sell the property. It will revert back to the CSIR for no consideration should the NRF be disbanded.

Reconciliation of work-in-progress 2021

	Land & Buildings	Research equipment	Included within Other PPE	Total
Opening balance	3,292	92,599	16,501	112,392
Additions/capital expenditure	3,911	75,056	14,774	93,741
Transferred to completed items	(301)	(44,001)	(9,192)	(53,494)
	6,902	123,654	22,083	152,639

Reconciliation of work-in-progress 2020

	Land & Buildings	Research equipment	Included within Other PPE	Total
Opening balance	2,474	74,875	21,154	98,503
Additions/capital expenditure	818	36,162	16,066	53,046
Other movements and transfers	-	1,075	(1,075)	-
Transferred to completed items	-	(19,513)	(19,644)	(39,157)
	3,292	92,599	16,501	112,392

Expenditure incurred to repair and maintain property, plant and equipment and equipment

Expenditure incurred to repair and maintain property, plant included in Statement of Financial Performance

Contracted services	24,687	32,370
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Notes to the financial statements

4. Intangible assets

	2021			2020		
	Cost / Valuation	Accumulated amortisation and accumulated impairment	Carrying value	Cost / Valuation	Accumulated amortisation and accumulated impairment	Carrying value
Computer software, under development	47,617	-	47,617	25,876	-	25,876
Computer software, other	74,125	(53,000)	21,125	74,763	(47,156)	27,607
Other intangible assets	2,415	-	2,415	2,415	-	2,415
Total	124,157	(53,000)	71,157	103,054	(47,156)	55,898

Reconciliation of intangible assets - 2021

	Opening balance	Additions	Disposals	Amortisation	Total
Computer software, under development	25,876	21,741	-	-	47,617
Computer software, other	27,607	1,549	(463)	(7,568)	21,125
Intangible assets	2,415	-	-	-	2,415
	55,898	23,290	(463)	(7,568)	71,157

Reconciliation of intangible assets - 2020

	Opening balance	Additions	Amortisation	Total
Computer software under development	-	25,876	-	25,876
Computer software, other	33,872	1,445	(7,710)	27,607
Intangible assets	2,415	-	-	2,415
	36,287	27,321	(7,710)	55,898

Notes to the financial statements

5. Interests in other entities Investments in associates

Name	Jurisdiction	Determination of ownership interest	% ownership interest 2021	% ownership interest 2020	Carrying amount 2021	Carrying amount 2020
SALT Foundation (Pty) Ltd.	Unlisted		40.34 %	35.92 %	7,443	12,591
					7,443	12,591

The carrying amounts of associates are shown net of impairment losses.

Movements in carrying amount

Opening balance	12,591	13,795
Share of surplus/(deficit)	(5,148)	(1,204)
	7,443	12,591

Principal activities, country of incorporation and voting power

Legal name	Principal activity	Country of incorporation	Proportion of voting power
SALT Foundation (Pty) Ltd.	Development, upgrade and operation of an 11 metre telescope for astronomical research	S.A.	40.34

Summary of associates's financial information

Current assets	83,069	78,852
Non-Current assets	101,105	116,149
Total Liabilities	4,780	2,921
Revenue	41,171	44,623
Surplus/(deficit)	(12,761)	(3,352)

6. Heritage assets

	2021			2020		
	Cost / Valuation	Accumulated impairment losses	Carrying value	Cost / Valuation	Accumulated impairment losses	Carrying value
Collections of rare books, manuscripts and records	57	-	53	57	-	53
Objects of scientific and technological interest	15,552	-	15,552	15,552	-	15,552
Historical structures and monuments	56	-	56	56	-	56
Total	15,665	-	15,661	15,665	-	15,661

Reconciliation of heritage assets 2021

	Opening balance	Additions	Total
Collections of rare books, manuscripts and records	53	4	57
Objects of scientific and technological interest	15,552	-	15,552
Historical structures and monuments	56	-	56
	15,661	4	15,665

Reconciliation of heritage assets 2020

	Opening balance	Additions	Total
Collections of rare books, manuscripts and records	53	-	53
Objects of scientific and technological interest	15,370	182	15,552
Historical structures and monuments	56	-	56
	15,479	182	15,661



Notes to the financial statements

Heritage assets which fair values cannot be reliably measured

Rare books

The SAAO hosts the National Library for Astronomy of South Africa. Some of the books are rare as they are hand written, one of a kind and irreplaceable. These books cannot be reliably measured for economic value as there is no market for them and they are irreplaceable. These books contributed significantly to the research output of the Observatory in the past and are being preserved for future generations. They are being kept for historical purposes only.

National Biological Specimen Collection

The collection of museum specimens comprise over 100 000 containers of fish and other aquatic organisms, such as amphibians, invertebrates and diatoms. Many of the specimens in the collection are unique and largely irreplaceable. There is also a molecular tissue bank of aquatic samples for genetic analysis and a dry collection of fish skeletons and otoliths. Some specimens date back more than 100 years. The biological collection is supported by scientific graphic images. The collection cannot be reliably measured for economic value as there is no market for it and the collection is irreplaceable.

7. Other financial assets

	2021 '000	2020 '000
At amortised cost		
Grant deposit accounts	520,375	662,670
The approved grant deposits are repayable to the NRF on 30 days' notice, in an event of the funding being discontinued.		
Infrastructure bridging funding	-	10,000
Funding advanced to institutions for infrastructure, repayable in full to the NRF within 12 months. The funding is non-interest bearing.		
	520,375	672,670

8. Employee benefit obligations

Defined benefit plan

Post-retirement medical aid plan

The NRF has a subsidy obligation for those members who did not accept the buy out offer in 2012. To manage the residual liability that has remained, the NRF has acquired an annuity policy which qualifies as a plan asset.

The amounts recognised in the statement of financial position are as follows:

Carrying value		
Present value of the defined benefit obligation-partly or wholly funded	(11,406)	(11,842)
Fair value of plan assets	13,843	14,074
	2,437	2,232

The plan asset consists of an annuity insurance policy. The annuity portfolio is made up of a growth account and a guaranteed account. Increases are guaranteed at a minimum of CPI per annum. The growth account is used to make up the difference between the guaranteed account annuities and the employer contributions.

Notes to the financial statements

The fair value of plan assets includes:

	2021 '000	2020 '000
Changes in the present value of the defined benefit obligation are as follows:		
Opening balance	(11,842)	(12,233)
Benefits paid	1,453	1,444
Service and interest cost	(1,017)	(1,053)
	(11,406)	(11,842)

Net expense recognised in the statement of financial performance

Interest cost	1,017	1,053
Expected return on plan assets	(1,222)	(1,241)
	(205)	(188)

Changes in the fair value of plan assets are as follows:

Opening balance	14,074	14,277
Expected return	1,222	1,241
Benefits paid	(1,453)	(1,444)
	13,843	14,074

Key assumptions used

Assumptions used at the reporting date:

Discount rates used	9.19 %	9.19 %
Consumer Price Inflation (CPI)	5.70 %	5.70 %
Real discount rate	1.86 %	1.86 %
Health care cost inflation	7.20 %	7.20 %
Normal retirement age	65	65

Other assumptions

Assumed healthcare cost trends rates have a significant effect on the amounts recognised in surplus or deficit. A one percentage point change in assumed healthcare cost trends rates would have the following effects:

	One percentage point increase	One percentage point decrease
Effect on the aggregate of the service cost and interest cost	7	7
Effect on defined benefit obligation	6	6

Amounts for the current and previous four years are as follows:

	2021 '000	2020 '000	2019 '000	2018 '000	2017 '000
Defined benefit obligation	(11,406)	(11,842)	(12,233)	(12,612)	(12,759)
Plan assets	13,843	14,074	14,277	16,608	16,460
Surplus/(deficit)	24,237	2,232	2,044	3,996	3,701

Defined contribution plan

It is the policy of the entity to provide retirement benefits to all its employees through the National Research Foundation Pension Fund, which is subject to the Pensions Fund Act. The fund is administered by Alexander Forbes Consultants and Actuaries.

The entity is under no obligation to cover any unfunded benefits.

The amount recognised as an expense for defined contribution plans is	64,563	61,052
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Notes to the financial statements

9. Prepayments

Prepayments consist mainly of a prepayment made on a contract for the acquisition of the new 70Mev cyclotron.

	2021 '000	2020 '000
Advance payment on the acquisition of research equipment	95,677	95,677
Prepayment on membership fees	-	12,507
Other prepayments	4,616	193
	100,293	108,377

10. Grants and bursaries paid in advance

Funding advanced for grants and bursaries	11,707	11,912
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11. Inventories

Consumable stores and maintenance spares	7,933	5,058
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12. Receivables from exchange transactions

Trade debtors	88,508	55,686
Employee costs in advance	56	238
Prepayments	114,994	107,675
Deposits	3,600	4,358
Other receivables	15,606	49,633
	222,764	217,590

Credit quality of trade and other receivables

Credit risk, with respect to trade and other receivables, is limited due to the large number of customers comprising the NRF's customer base, and their dispersion across different industries and geographical areas.

Trade receivables

None of the financial assets that are fully performing have been renegotiated in the last year.

Fair value of trade and other receivables

The fair value of financial assets is not expected to differ materially from their carrying values, due to the short term nature thereof.

13. Receivables from exchange transactions (continued)

Trade and other receivables past due but not impaired

Trade and other receivables which are less than three months past due are not considered to be impaired. At March 31, 2021, R42,778m (2020: R28,032m) were past due but not impaired.

Notes to the financial statements

	2021 '000	2020 '000
The ageing of amounts past due but not impaired is as follows:		
1 month past due	-	26,027
2 months past due	34,199	96
3 months past due	8,579	1,909

Trade and other receivables impaired

As of March 31, 2021, trade and other receivables of R1,108m (2020: R1,084m) were impaired and provided for.

The amount of the provision was R1,108m as of March 31, 2021 (2020: R1,084m).

Reconciliation of provision for impairment of trade and other receivables		
Opening balance	1,084	847
Provision for impairment	40	409
Unused amounts reversed	(16)	(172)
	1,108	1,084

The creation and release of provision for impaired receivables have been included in operating expenses in surplus or deficit (note 28). Amounts charged to the allowance account are generally written off when there is no expectation of recovering additional cash.

The maximum exposure to credit risk at the reporting date is the fair value of each class of receivable mentioned above. The entity does not hold any collateral as security.

13. Receivables from non-exchange transactions

Contract income	109,647	13,746
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Credit quality of receivables from non-exchange transactions

The credit quality of other receivables from non-exchange transactions that are neither past nor due nor impaired can be assessed by reference to historical information about counterparty default rates:

Receivables from non-exchange transactions

None of the financial assets that are fully performing have been renegotiated in the last year.

Fair value of receivables from non-exchange transactions

The fair value of financial assets is not expected to differ materially from their carrying values, due to the short-term nature thereof.

14. Cash and cash equivalents

Cash and cash equivalents consist of:

Cash on hand	61	68
Short-term deposits and bank balances	832,536	860,988
	832,597	861,056



The balance includes R355 million for SARAO committed towards the MeerKAT extension and fibre contract and R223 million towards the SAIF project.

Credit quality of cash at bank and short-term deposits, excluding cash on hand

Cash equivalents and short-term deposits are placed with highly rated and National Treasury approved financial institutions.

15. Capital fund

		2021 '000	2020 '000
Opening balance		2,553,927	2,630,764
Net acquisition of assets/transfer of assets		(83,358)	(76,837)
Acquisition of property, equipment, intangible and heritage assets	4&3&6	196,284	201,184
Depreciation, amortisation and disposals	4&3&6	(279,642)	(278,021)
		2,470,569	2,553,927

16. SALT fund

The SALT fund represents income received from the Department of Science and Innovation, for the purpose of investing the funds in the SALT Foundation (Pty) Ltd. The balance is adjusted with post acquisition surpluses/losses of the SALT Foundation (Pty) Ltd.

Income available for the SALT Foundation (Pty) Ltd.	7,443	12,591
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17. Provisions

Reconciliation of provisions - 2020	Opening Balance	Utilised during the year	Reversed during the year	Total
Provision for performance bonus	10,380	(8,842)	(1,538)	-

The provision represents an estimated amount to be paid for performance bonuses. The process of finalising performance reviews for the current year will be concluded in the next financial year, when the actual payments, and the determination thereof will occur.

18. Designated income received in advance

Funding that is earmarked for a specific purpose, and thus conditional, relating to expenditure that will be incurred in future financial years, is transferred to income received in advance, until the related costs are incurred.

Income not yet expensed	1,566,742	1,667,489
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19. Payables from exchange transactions

	2021 '000	2020 '000
Trade payables	48,677	42,636
Accrued leave pay	80,302	62,752
Remuneration accrual	4,683	4,609
Other payables	7,418	7,814
	141,080	117,811

20. Sales of goods and services

Sale of isotopes	67,524	74,862
Service rendered	2,163	5,670
Other sales	101	1,616
	69,788	82,148

21. Other income

Sundry income	3,637	7,172
Rent received	1,021	2,166
Donations received	1	-
Participation fees	-	1,408
Insurance recoveries	5,047	217
	9,706	10,963

22. Interest income

Bank	35,393	58,420
Interest charged on trade and other receivables	3	50
Interest other	2	5
	35,398	58,475

23. DSI contract income

DSI MTEF Contract funding received	2,251,642	2,793,998
Net funds carried forward from 2020/21	45,942	(240,837)
	2,297,584	2,553,161

24. Other contract income

Department of Science and Innovation	-	7,791
Other government organisations	198,583	193,282
Private and international organisation	94,035	94,859
	292,618	295,932

The NRF manages a number of projects/programmes for government departments and local as well as international organisations, on a contractual basis. These funds are designated for specific projects.



Notes to the financial statements

2021 '000	2020 '000
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25. Board and Corporate Executive members' remuneration

Non-Executive Members (Board members)

	Short term benefits	Total package 2021 R' 000	Total package 2020 R' 000
Dr N Obokoh (From 1 October 2018)	13	13	-
Ms CA Busetti (From 1 April 2017)	66	66	78
Prof HI Bhorat (From 1 October 2018)	25	25	29
Prof Z Vilakazi (From 1 October 2018)	6	6	45
Prof NM Mkhize (From 1 October 2018)	35	35	52
Dr BD Ngqulunga (From 1 October 2018)	41	41	56
Prof NF Petersen (From 1 October 2018)	33	33	49
** Prof G Gray (From 1 October 2018)	-	-	-
Ms M Letlape (From 1 March 2015)	47	47	45
** Prof S Mosoetsa (From 1 October 2014)	-	-	-
Prof S Sinha (From 1 October 2018)	56	56	70
Mr MR Lubisi (From 1 October 2014)	76	76	84
Prof T Maluleke (From 1 October 2014)	31	31	-
Prof R Phaswana-Mafuya (From 1 April 2019)	25	25	39
	454	454	584

Members of the Corporate	Short-term benefits R' 000	Bonuses and performance related payments R' 000	Retirement fund contributions R' 000	Medical contributions R' 000	Other benefits R' 000	Total package 2021 R' 000	Total package 2020 R' 000
*Dr M Qhobela (CEO up to Nov. 2020)	2,404	-	315	166	31	2,916	3,278
Dr C Nxomani	1,913	-	180	116	32	2,241	2,311
Dr BA Damonse	2,246	-	308	46	39	2,639	2,508
Dr DG Pillay (Acting CEO from Dec. 2020)	2,797	-	320	-	40	3,157	3,138
Mr KJ Oagile	1,925	-	164	-	30	2,119	2,012
Mr B Singh (CFO)	2,500	-	220	72	36	2,828	2,913
Dr PP Matutu	1,700	-	280	-	32	2,012	1,902
	15,485	-	1,787	400	240	17,912	18,062
Total remuneration	15,939	454	1,787	400	240	18,366	18,646

* Denotes ex-officio member of the NRF Board.

** Members of the NRF Board who do not qualify for remuneration as they are public office bearers.

Corporate Executive members are considered to be key management personnel as they are the delegated key decision makers.

Notes to the financial statements

26. Cost of sales

	2021 '000	2020 '000
Sale of goods		
Cost of goods sold - Isotopes	29,830	34,096
Cost of goods sold - Other	46	100
	29,876	34,196

27. Auditor's remuneration

AG external audit - current year	842	1,450
AG external audit - prior year	2,628	2,560
External audit other - contracts	559	-
	4,029	4,010

28. Operating deficit

Operating deficit for the year is stated after accounting for the following:

Operating lease charges:

Contractual amounts - Premises	14,850	15,230
Contractual amounts - Equipment	313	318
	15,163	15,548

Loss on sale of property, plant and equipment	3,573	1,050
Impairment on property, plant and equipment	156	-
Loss/(gain) on exchange differences	(9,437)	1,571
Amortisation on intangible assets	7,569	7,711
Depreciation on property, plant and equipment	265,531	276,393
Employee costs	822,664	763,262
Defined contribution funds	64,563	61,052

29. Cash generated from operations

Deficit	(95,910)	(45,936)
Adjustments for:		
Depreciation and amortisation	275,777	276,393
Gain/(loss) on sale of assets and liabilities	3,573	1,050
Income from equity accounted investments	5,148	1,204
Impairment deficit	156	-
Movements in post-retirement benefit assets and liabilities	(205)	(188)
Movements in provisions	-	(10,380)
Changes in working capital:		
Inventories	(2,875)	(563)
Receivables from exchange transactions	147,121	(21,721)
Other receivables from non-exchange transactions	(95,901)	279,777
Prepayments	8,084	(94,173)
Grants and bursaries paid in advance	205	6,987
Payables from exchange transactions	23,269	6,356
Designated income received in advance	(100,747)	5,109
	167,695	403,915



Notes to the financial statements

30. Financial instruments disclosure

Categories of financial instruments

2021

Financial assets

	At amortised cost	Total
Other financial assets	520,375	520,375
Trade and other receivables	213,761	213,761
Cash and cash equivalents	832,597	832,597
	1,566,733	1,566,733

Financial liabilities

	At amortised cost	Total
Trade and other payables from exchange transactions	56,095	56,095

2020

Financial assets

	At amortised cost	Total
Other financial assets	672,670	672,670
Trade and other receivables	119,065	119,065
Cash and cash equivalents	861,056	861,056
	1,652,791	1,652,791

Financial liabilities

	At amortised cost	Total
Trade and other payables from exchange transactions	50,450	50,450

31. Commitments

	2021 '000	2020 '000
Authorised capital expenditure		
Already contracted for but not provided for		
Property, plant and equipment	582,505	565,901
Not yet contracted for and authorised by delegated authority		
Property, plant and equipment	308,592	40,565
Total capital commitments		
Already contracted for but not provided for	582,505	565,901
Not yet contracted for and authorised by members	308,592	40,565
	891,097	606,466
Authorised operational expenditure		
Already contracted for but not provided for		
Goods and services	479,378	290,694
Not yet contracted for and authorised by the delegated authority		
Goods and services	15,854	817
Total operational commitments		
Already contracted for but not provided for	479,378	290,694
Not yet contracted for and authorised by members	15,854	817
	495,232	291,511
Total commitments		
Authorised capital expenditure	891,097	606,466
Authorised operational expenditure	495,232	291,511
	1,386,329	897,977

The operational and capital expenditure will be financed from the parliamentary grant (MTEF) and designated funds.

Operating leases - as lessee (expense)

Minimum lease payments due

- within one year	13,457	14,397
- in second to fifth year inclusive	28,382	2,263
	41,839	16,660

Operating lease payments represent rentals payable by the entity for certain of its office properties and equipment. Leases are negotiated for an average term of between two years and 100 years and rentals escalate between 0% and 8% annually. No contingent rent is payable.

Operating leases - as lessor (income)

Minimum lease payments due

- within one year	238	302
- in second to fifth year inclusive	487	104
	725	406

The entity has entered into non-cancellable commercial property leases for the duration of the lease period. These leases are negotiated for a term of between two years and five years and rentals escalate between 0% and 8% annually. There are no contingent rents receivable.

32. Contingencies

Contingent liabilities

Future grants awarded	4,314,670	4,346,503
The NRF has awarded multi-year grants for up to five years, with subsequent years' payments conditional upon receipt of progress reports.		
Removal of historic packageable radioactive waste	4,730	4,730

Packageable radioactive waste consists of low - medium level radioactive contaminated solid waste with relatively short half-lives (< 5 years). All the radioactive waste produced by iThemba LABS, since its inception, has been stored on site. New regulations, with regards to radiation waste management, are envisaged that may result in a possible obligation for the NRF to dispose of such radioactive waste from the NRF premises, whilst also meeting set requirements. The possible obligation calculated represents a best cost estimate of such disposal process, for which funding has been set aside.



33. Related parties

2021 '000	2020 '000
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Related party balances

Amounts included in Trade receivables/ (Trade Payables) regarding related parties

SALT Foundation (Pty) Ltd.	2,610	2,247
Prepayment to SALT Foundation (Pty) Ltd.	23,761	24,588

The outstanding balance at year-end is unsecured, interest free and settlement occurs in cash. There have been no guarantees received. No impairment has been recorded of the amount owed.

Related party transactions

Payments to the SALT Foundation (Pty) Ltd.		
Levy for the use of the telescopes	49,916	21,977
Receipts from the SALT Foundation (Pty) Ltd.		
The recovery of services rendered	32,118	32,627
Department of Science and Innovation		
Parliamentary grant and DSI contract income	3,111,111	3,737,383
Other DSI contract income	-	7,791

Relationships

Members of key management	Refer to note 25
Controlling entity	Department of Science and Innovation
Associates	Refer to note 5
Fellow controlled entities	Academy of Science of South Africa (ASSAF), Council for Scientific and Industrial Research (CSIR), Human Sciences Research Council (HSRC), South African National Space Agency (SANSA) and Technology Innovation Agency (TIA)

By virtue of the fact that the NRF is a national public entity, and controlled by national government, any other controlled entity of the national government is a related party. All transactions with such entities are at arm's length, and on normal commercial terms.

34. Risk management

Financial risk management

The entity's activities expose it to a variety of financial risks: market risk (including currency risk and cash flow interest rate risk), credit risk and liquidity risk.

The entity's overall risk management program focuses on the unpredictability of financial markets and seeks to minimise potential adverse effects on the entity's financial performance. Risk management is carried out by a central treasury department under policies approved by the board. Entity treasury identifies, evaluates and hedges financial risks in close co-operation with the entity's business units. The board provides written principles for overall risk management, as well as written policies covering specific areas, such as foreign exchange risk, interest rate risk, credit risk and investment of excess liquidity.

Liquidity risk

Prudent liquidity risk management implies maintaining sufficient cash and the availability of funding.

The entity's risk to liquidity is a result of the funds available to cover future commitments. The entity manages liquidity risk through an ongoing review of future commitments, through proper management of working capital, capital expenditure and actual vs. forecasted cash flows and its investment policy. Adequate reserves and liquid resources are also maintained.

The table below analyses the entity's financial liabilities into relevant maturity groupings based on the remaining period at the statement of financial position to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows. Balances due within 12 months equal their carrying balances as the impact of discounting is not significant.

Notes to the financial statements

	2021 '000	2020 '000
At March 31, 2021	Less than 1 year	Between 1 and 2 years
Trade and other payables	56,095	-
At March 31, 2020	Less than 1 year	Between 1 and 2 years
Trade and other payables	50,450	-

Credit risk

Credit risk consists mainly of cash deposits, cash equivalents and trade debtors. The entity only deposits cash with major banks with high quality credit standing and limits exposure to any one counter-party.

Trade receivables comprise a widespread customer base. Management evaluates credit risk relating to customers on an ongoing basis. Risk control assesses the credit quality of the customer, taking into account its financial position, past experience and other factors. The entity does not have any significant exposure to any individual customer or counter-party.

Market risk

Interest rate risk

Financial assets and liabilities affected by interest rate fluctuations include bank and cash deposits.

Interest rate exposure and investment strategies are evaluated by management on a regular basis. Interest-bearing investments are held with reputable banks in order to minimise exposure. The entity furthermore manages its interest rate risk by obtaining competitive rates from different banks. No significant risks have been identified with regards to interest rates.

Cash flow interest rate risk

Financial instrument	Current interest rate	Due in less than a year
Trade and other receivables - normal credit terms	7.00 %	88,508
Trade and other receivables - normal credit terms	- %	125,253
Cash in current banking institutions	3.75 %	104,794
Short-term deposits	2.80 %	727,743
Trade and other payables	- %	56,095
Other financial assets	- %	520,375

Foreign exchange risk

The entity does not hedge foreign exchange fluctuations.

35. Fruitless and wasteful expenditure

Opening balance	-	-
Add: Expenditure identified - current	-	19
Less: Amount written off - current	-	(19)
Closing balance	-	-

The listed incidents in 2019/20 were investigated and disciplinary steps taken, where necessary.



Notes to the financial statements

36. Irregular expenditure

	2021 '000	2020 '000
Opening balance as previously reported	-	15
Opening balance as restated	-	15
Add: Irregular Expenditure - current	12,946	-
Less: Amounts condoned/written off	-	(15)
Closing balance	12,946	-

Incidents/cases identified in the current year include those listed below:

	Disciplinary steps taken/criminal proceedings		
Non-compliance with Instruction note 3 of 2016/17	Process to commence	12,930	-
Non-compliance with Practice Note 8 of 2007/08	Internal disciplinary steps taken	16	-
		12,946	-

Irregular expenditure amounting to R 12.9m is disclosed due to the NRF having chosen a deviation sourcing method as opposed to a variation sourcing method for database subscriptions. The deviation sourcing strategy was considered the most appropriate by management as the suppliers of such databases are sole suppliers and the related contracts had expired by virtue of the depletion of the authorised contract amounts. Full value for money and services were delivered on all related contracts.

Amounts condoned

Non-compliance with Practice Note 8 of 2007/08	-	15
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37. Material losses through criminal conduct

Opening balance as restated	-	-
Add: Expenditure identified - current period	-	180
Less: Amount written off - current	-	(180)
Closing balance	-	-

Phishing fraud resulted in payments being processed into fraudulent bank accounts in the 2019/20 financial year. The matter was subsequently reported to the South African Police to investigate the incident. An internal investigation on the matter was performed and concluded in addition to the strengthening of internal controls.

38. Segment information

General information

Identification of segments

The entity is organised and reports to management on the basis of seven business units of the entity. The segments were organised around the type of service delivered. Management uses these same segments for determining strategic objectives.

Information reported about these segments is used by management as a basis for evaluating the segments' performances and for making decisions about the allocation of resources. The disclosure of information about these segments is also considered appropriate for external reporting purposes.

The Corporate office is regarded as an administrative department, which does not generate economic benefits or have service potential. It has subsequently been disclosed as a reconciling item to the entity surplus/deficit.

Notes to the financial statements

Types of goods and/or services by segment

These reportable segments as well as the goods and/or services for each segment are set out below:

Reportable segment	Goods and/or services
Research and Innovation Support and Advancement (RISA)	The business unit provides for the promotion and support of research and research capacity development in all fields of knowledge and technology, through investing in knowledge, people and infrastructure; developing research capacity, and advancing equity and equality, to unlock the full creative potential of researchers; assisting with the development of institutional capacity; and, facilitating strategic national and international partnerships and knowledge networks.
iThemba Laboratory for Accelerator Based Sciences (iThemba LABS)	The facility provides advanced, viable, multidisciplinary facilities for training, research and services in the fields of sub-atomic nuclear science and applied radiation medicine.
South African Astronomical Observatory (SAAO)	SAAO is the national centre for optical and infrared astronomy in South Africa. Its primary function is to conduct fundamental research in astronomy and astrophysics. SAAO operates SALT, located at its site near Sutherland, on behalf of an international consortium and promotes astronomy and astrophysics in Southern Africa.
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 resource collections as research tools and resources 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 Agency for Science and Technology Advancement (SAASTA)	SAASTA is positioned as a science engagement agency in advancing the public awareness, appreciation and understanding of science, engineering and technology in South Africa, as well as the integration of science awareness activities across the entity.
South African Environmental Observatory Network (SAEON)	SAEON is a research unit that establishes and maintains nodes (environmental observatories, field stations or sites) linked by an information management network to serve as research and education platforms for long-term studies of ecosystems that will provide for incremental advances in our understanding of ecosystems and our ability to detect, predict and react to environmental change. An application has been submitted to the Minister of Science and Innovation to declare SAEON as a national facility.
South African Radio Astronomy Observatory (SARAO)	The SKA project is an international effort to build the world's largest radio telescope, with about a square kilometre of collecting area. Deploying thousands of radio telescopes, in three unique configurations, it will enable astronomers to monitor the sky in unprecedented detail and survey the entire sky thousands of times faster than any system currently in existence. All existing and future radio astronomy activities are now incorporated into a single radio astronomy observatory called the South African Radio Astronomy Observatory (SARAO), which includes MeerKAT, KAT-7, AVN, HartRAO and international radio astronomy experiments in the SKA site.



Notes to the financial statements

Figures in rand thousand

Segment surplus or deficit, assets and liabilities 2021

	RISA	iThemba LABS	SAAO	SARAO	SAEON	SAIAB	SAASTA	Inter-segment transfers & Corporate office	Total
Revenue									
Parliamentary grant	440,224	178,972	56,926	25,468	12,571	26,664	27,013	-	767,838
DSI contract income	1,620,149	13,366	25,635	539,507	51,192	7,622	36,601	-	2,294,072
Other contract income	222,901	12,229	27,642	17,743	8,738	1,859	1,515	-	292,627
Revenue from exchange transactions	5	73,581	1,077	3,577	302	53	(557)	-	78,038
Inter-segment transfers	768	23,313	17,577	14,926	6,570	15,312	1,997	(80,463)	-
Interest revenue	5,593	7,530	1,065	13,899	1,877	1,318	1,227	-	32,509
Total segment revenue	2,289,640	308,991	129,922	615,120	81,250	52,828	67,796	(80,463)	3,465,084
Corporate office revenue								128,281	128,281
Corporate inter-segment transfers								(28,800)	(28,800)
Total revenue reconciling items								99,481	99,481
Entity's revenue	2,289,640	308,991	129,922	615,120	81,250	52,828	67,796	19,018	3,564,565
Expenditure									
Salaries and wages	127,125	152,636	76,916	274,372	48,804	29,966	36,105	-	745,924
Grants, bursaries and other research expenditure	2,043,608	4,486	5,645	46,967	4,493	6,805	15,031	-	2,127,035
Programme and operating expenditure	71,853	125,137	51,946	369,172	27,890	20,844	17,908	-	684,750
Inter-segment transfers	58,294	7,890	2,619	29,384	4,441	1,821	914	(105,363)	-
Total segment expenditure	2,300,880	290,149	137,126	719,895	85,628	59,436	69,958	(105,363)	3,557,709
Total segmental surplus/(deficit)	(11,240)	18,842	(7,204)	(104,775)	(4,378)	(6,608)	(2,162)	24,900	(92,625)
Total revenue reconciling items								99,481	99,481
Corporate office expenditure								(106,666)	(106,666)
Corporate inter-segment transfers								3,900	3,900
Entity's surplus/(deficit) for the period	(11,240)	18,842	(7,204)	(104,775)	(4,378)	(6,608)	(2,162)	21,615	(95,910)
Opening segment accumulated surplus/(deficit)	(8,796)	277	2,808	4,106	950	1,612	(2,638)	7,246	5,565
Transfer from SALT fund	-	-	5,148	-	-	-	-	-	5,148
Transfer from Infrastructure fund	-	-	-	-	-	-	-	5,000	5,000
Segment net capital expenditure	(3,113)	(53,302)	(8,449)	(89,248)	(7,826)	(5,118)	(457)	-	(167,513)
Depreciation and amortisation	18,661	33,731	7,934	189,917	12,317	11,351	1,866	-	275,777
Corporate office net capital expenditure	-	-	-	-	-	-	-	(24,906)	(24,906)
Accumulated surplus/(deficit)	(4,488)	(452)	237	-	1,063	1,237	(3,391)	8,955	3,161

	RISA	iThemba LABS	SAAO	SARAO	SAEON	SAIAB	SAASTA	Inter-segment transfers & Corporate office	Total
Assets									
Segment assets	972,065	614,232	130,744	2,203,542	167,250	128,429	69,509	-	4,285,771
Total assets as per Statement of Financial Position									4,285,771
Liabilities									
Segment liabilities	698,750	333,863	39,711	445,309	86,500	50,874	52,815	-	1,707,822
Total liabilities as per Statement of Financial Position									1,707,822

Segment assets and liabilities for the RISA segment includes Corporate office assets and liabilities as these are not separately identified or internally reported.

Segment information 2020

	RISA	iThemba LABS	SAAO	SARAO	SAEON	SAIAB	SAASTA	Inter-segment transfers & Corporate office	Total
Revenue									
Parliamentary grant	502,108	186,000	57,277	29,125	12,664	25,248	26,366	-	838,788
DSI contract income	1,836,183	24,805	10,086	526,172	75,974	9,593	60,343	-	2,543,156
Other contract income	207,551	7,408	34,505	27,999	11,752	4,520	2,116	-	295,851
Revenue from exchange transactions	448	80,369	2,788	5,662	115	300	1,850	-	91,532
Inter-segment transfers	15,559	34,606	35,874	13,680	15,144	38,281	6,045	(159,189)	-
Interest revenue	49	2	3	17,687	-	1	-	-	17,742
Total segment revenue	2,561,898	333,190	140,533	620,325	115,649	77,943	96,720	(159,189)	3,787,069
Corporate office revenue								193,746	193,746
Corporate inter-segment transfers								(36,787)	(36,787)
Total revenue reconciling items								156,959	156,959
Entity's revenue	2,561,898	333,190	140,533	620,325	115,649	77,943	96,720	(2,230)	3,944,028
Expenditure									
Salaries and wages	118,057	140,093	76,487	251,514	45,464	28,146	32,841	-	692,602
Grants, bursaries and other research expenditure	2,296,689	5,712	3,416	56,783	6,340	6,472	23,123	-	2,398,535
Programme and operating expenditure	57,061	165,771	53,630	417,570	29,365	24,978	42,287	-	790,662
Inter-segment transfers	83,066	7,905	2,542	25,750	23,553	702	1,781	(145,299)	-
Total segment expenditure	2,554,873	319,481	136,075	751,617	104,722	60,298	100,032	(145,299)	3,881,799
Total segmental surplus/(deficit)	7,025	13,709	4,458	(131,292)	10,927	17,645	(3,312)	(13,890)	(94,730)



Notes to the financial statements

Figures in rand thousand

	RISA	iThemba LABS	SAAO	SARAO	SAEON	SAIAB	SAASTA	Inter-segment transfers & Corporate office	Total
Total revenue reconciling items								156,959	156,959
Corporate office expenditure								(158,844)	(158,844)
Corporate inter-segment transfers								50,679	50,679
Entity's surplus/(deficit) for the period	7,025	13,709	4,458	(131,292)	10,927	17,645	(3,312)	34,904	(45,936)
Opening segment accumulated surplus/(deficit)	(33,393)	(2,233)	3,200	5,787	1,283	930	(62)	26,847	2,359
Transfer from SALT fund	-	-	1,204	-	-	-	-	-	1,204
Transfer to infrastructure fund	-	(9,800)	-	-	-	-	-	(19,099)	(28,899)
Segment net capital expenditure	(1,004)	(32,452)	(13,902)	(66,084)	(22,345)	(27,240)	(1,124)	-	(164,151)
Depreciation and amortisation	18,576	31,053	7,848	195,695	11,085	10,277	1,860	-	276,394
Corporate office net capital expenditure	-	-	-	-	-	-	-	(35,406)	(35,406)
Accumulated surplus/(deficit)	(8,796)	277	2,808	4,106	950	1,612	(2,638)	7,246	5,565
Assets									
Segment assets	1,455,811	366,942	93,550	2,334,312	86,829	84,624	37,092	-	4,459,160
Total assets as per Statement of Financial Position									4,459,160
Liabilities									
Segment liabilities	783,504	320,771	27,782	495,083	70,045	29,081	59,036	-	1,785,302
Total liabilities as per Statement of Financial Position									1,785,302

Segment assets and liabilities for the RISA segment includes Corporate office assets and liabilities as these are not separately identified or internally reported.

Measurement of segment surplus or deficit, assets and liabilities

Basis of accounting for transactions between reportable segments

The accounting policies of the segments are the same as those described in the summary of significant accounting policies.

The nature of differences between the measurements of the reportable segments' surplus or deficit and the entity's surplus or deficit and discontinued operations

Inter-segment transfers: segment revenue and segment expense include revenue and expense arising from transfers between segments. Such transfers are usually accounted for at cost and are eliminated on consolidation.

The Corporate office is regarded as an administrative department and is a reconciling item to the entity's surplus/deficit.

The nature of differences between the measurements of the reportable segments' assets or liabilities and the entity's assets or liabilities

There are no differences between the measurements of the reportable segments' assets and liabilities in comparison with that of the entity.

Information about geographical areas

The entity's operations are in different regions around the country. However, geographical areas are not used by the entity for decision-making purposes and information is not reported or collected in such a manner.

39. Budget differences

Material differences between budget and actual amounts

The budget is prepared well in advance of the financial year. Significant differences can occur between the budget compared with the actual results. The entity normally receives additional contract income during the financial year and funds carried forward are

only confirmed at year-end, thus subsequent to the preparation of the budget.

Income

Total income is lower than budgeted by R 509 million. Other income increased mainly due to an insurance claim settlement at iThemba Labs for business interruption on the production of isotopes. DSI contract income decreased due to the negative impact of COVID-19 on the up-take and lag time in actual spend of awarded grants as the pandemic disrupted academic and research activities. The lockdown also impacted the MeerKAT extension at SARAO and the iThemba LABS SAIF-project, whilst delays were encountered in the SARAO fibre tender by SANREN. The Parliamentary Grant decreased by a further R10 million as the PG allocation was further cut during the Adjusted Estimates of National Expenditure process. Other contract income decreased due to reduced recoveries from the SALT Foundation as well as the completion of the Ulwazi node project, which was not extended.

Expenditure

Total expenditure is lower than the budget, although the total expenditure budget of the NRF also includes capital expenditure. Total expenditure of the NRF, including capital expenditure, was less by R 573 million due to: Decrease in employees' remuneration due to the temporary moratorium on the filling of staff vacancies and salary capitalisation at iThemba Labs. Depreciation decreased due to the slower procurement and capitalisation of assets. Grants, bursaries and other research expenditure decreased due to RISA grants up-take and spending lags due to the extension of the COVID-19 lockdown within DSI funded contracts, namely Bursaries and Scholarships, Thuthuka, Competitive and established researcher grants, international projects and Strategic Science Missions. Programme and operating expenses decreased mainly due to the extended lockdown resulting in a decreased level of activities across the NRF. The areas are mainly within travel, conferences, training, purchases and fees for services.

40. BBBEE Performance

Information on compliance with the B-BBEE Act is included in the annual performance report under the section titled B-BBEE Compliance Performance Information.



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