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***PROCEEDINGS OF MINI-PLENARY SESSION — NATIONAL ASSEMBLY***

\_\_\_\_

Members of the mini-plenary session met on the virtual

platform at 14:00.

House Chairperson Mr C T Frolick took the Chair and requested

members to observe a moment of silence for prayer or

meditation.

The HOUSE CHAIRPERSON (Mr C T Frolick): Thank you, hon

members. Before we proceed, I would like to remind you that

the virtual mini-plenary is deemed to be in the precinct of

Parliament and it constitutes a meeting of the National

Assembly for debating purposes only. In addition to the Rules

of virtual sittings, the Rules of the National Assembly,

including the rules of debate, will apply. Members enjoy the

same powers and privileges that apply in a sitting of the

National Assembly. Members should equally note that anything

that is said on the virtual platform is deemed to have been

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said to the House and may be ruled upon. All members who have

logged in shall be considered present and are requested to

mute their microphones and only unmute when they are

recognised to speak. The microphones are very sensitive and

will pick up noise which may disturb the attention of other

members. When members are recognised to speak, they must

please unmute their microphones and connect their videos.

Members may make use of the icons on the bar at the bottom of

their screens which has an option that allows a member to put

up his or her hand to raise points of order. The secretariat

will assist in this regard. When using the virtual system,

members are urged to refrain or desist from unnecessary points

of order or interjections.

We shall now proceed to the Order, which is the debate on Vote

No 35 — Science and Innovation Appropriation Bill. I now

recognise the hon Minister of Higher Education, Science and

Innovation. The hon Minister?

**APPROPRIATION BILL**

Debate on Vote No 35 — Science and Innovation:

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The MINISTER OF HIGHER EDUCATION, SCIENCE AND INNOVATION:

Thank you, hon House Chair. Our Deputy Minister of Higher

Education, Science and Innovation hon Buti Manamela,

Chairperson of the Portfolio Committee on Higher Education,

Science and Technology Ms Nompendulo Mkhatshwa and all members

of the portfolio committee, our Director-General of the

Department of Science and Innovation Dr Phil Mjwara and all

his senior managers, representatives of all our institutions

in our national system of innovation, and hon members, the

central focus of this year’s Budget Vote of the Department of

Science and Innovation, DSI, is that of accelerating the

reversal of the legacies of poverty, inequality and

unemployment, whilst addressing critical transitions required

in the context of a rapidly changing world shaped by climate

change, technological transition and new shifts in the global

economy.

Against the background of this wider context, our Budget Vote

is guided by the 2019 White Paper on Science, Technology and

Innovation and the Decadal Plan which was approved for

implementation by Cabinet in March 2021. The Decadal Plan

foregrounds the major societal grand challenges facing our

nation. I must emphasise that our goal is to ensure a just

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transition in both the traditional economic sectors of our

economy as well as to lay the foundations for the emergence of

new economic sectors.

The key focus areas of the Department of Science and

Innovation in 2022 will be to vigorously support the

government’s Economic Reconstruction and Recovery programme;

building long-term national capacity to deal with COVID-19 and

future pandemic threats; securing higher levels of public and

private investment in South Africa’s research development and

innovation; supporting the revitalisation of existing sectors

or industries; the exploitation of new sources of economic

growth; the building of a capable state; and support for

inclusive education and skills development.

In line with our stated goal to support innovation in South

Africa’s energy markets, I am pleased to say that we have

launched the hydrogen South Africa road map to unlock the

potential of new sources of clean energy to facilitate a just

transition from a carbon-intensive to a carbon-neutral

economy.

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At the same time, we continue to modernise existing sectors

such as mining, through support for research and development,

both to ensure a safer working environment for miners and to

increase the lifespan of mining in the country. In addition,

we are also playing a vital role in the beneficiation of the

mineral’s economy. Through the SA Mining Extraction Research,

Development and Innovation, Samerdi, strategy we have invested

R226 million towards the modernisation of the African mining

industry.

In partnership with Anglo American Platinum, Bambili Energy

and Engie, in October 2021 we initiated a feasibility study on

the Hydrogen Valley and identified nine catalytic projects

across the mobility, industrial and building sectors in the

first phase of the hydrogen economy programme. In terms of

platinum contribution, the study has projected a contribution

of up to US$70 million to the platinum industry in South

Africa by 2030.

Through the implementation of South Africa’s Hydrogen Valley

corridor, which covers the Johannesburg Hub, the Mogalakwena-

Limpopo and the Durban-Richards Bay areas, we have the

potential to create 14 000 jobs ... [Inaudible.] ... and

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indirect jobs per year by 2030, and of course by 2050 also the

upper number, potentially contributing between US$3,9 billion

and US$8,8 billion to South Africa’s gross domestic product,

GDP.

I must indicate that the launch of the world’s biggest

hydrogen truck by Anglo American Platinum at the Mogalakwena

mine in Limpopo on the 6th of May 2022, is an indication of

the potential that South Africa has to become a significant

global player in the hydrogen economy.

In line with our commitment to supporting existing industries

to meet South Africa’s climate mitigation targets, we will

further develop technologies to reduce emissions from coal-

fired boilers in the cement, energy, steel, and paper and pulp

industries through the CoalCO2-X project. To date, I am

pleased to say that we have invested R50 million towards this

project, which has allowed local small, medium and micro-

enterprises, SMMEs, to put in place partnerships to

demonstrate the potential of flue-gas conversion technology at

the Pretoria Portland Cement, PPC, plant.

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We also continue to identify grassroots innovators, especially

women and youth-led enterprises, in South Africa and assist

them to enhance their innovations and skills through a range

of interventions, including funding and business development

support towards pre-commercialisation.

We have also made significant strides through the Technology

Acquisition and Deployment Fund in facilitating the market

entry of South Africa’s local innovations that can improve the

delivery of basic services by government and municipalities.

This is key to strengthening local and district-level

governance and of course to support the presidential-led

District Development Model, DDM.

To support municipalities in driving an innovation-led Local

Economic Development, LED, agenda, we have initiated the

Innovation Champions for the LED programme which will be

rolled out to all 44 districts in the country in support of

the DDM to ensure that innovation is rooted at grassroots

level.

We have supplied and funded over 200 young emerging innovators

through our Living Labs Programme in township and rural

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communities in KwaZulu-Natal, the Western Cape, the Eastern

Cape and the Free State.

Our flagship Technology Stations Programme continues to be a

key, cross-sectoral, broad-based technology support programme

for companies, especially SMMEs and potential entrepreneurs,

increasing the spatial footprint of innovation in the country.

The 17 technology stations at 13 universities of technology

and comprehensive universities across the country have

provided technological support, including small batch

production and developing prototypes to approximately

2 000 SMMEs.

We have made significant progress in the agricultural agro-

processing value chain development through the implementation

of our Agricultural Bio-economy Innovation Partnership

Programme. We have also intensified our agricultural research

efforts and introduced new smart and climate-sensitive

agriculture technologies in a bid to ensure food security and

the modernisation of the South African agricultural sector.

We are also increasing our support for research and

development activities in veterinary research, in a bid to

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tackle persistent animal diseases and threats such as foot and

mouth disease, whilst through our Department of Higher

Education and Training we are working on increased training of

veterinary practitioners at different levels.

We have made tremendous progress in developing South Africa’s

domestic vaccine manufacturing capability, whilst at the same

time strengthening our epidemiological surveillance and

strategic decision-making capability on the strength of the

COVID-19 National Policy Data Observatory, which is hosted by

our Department of Science and Innovation.

On the manufacturing side, we are at an advanced stage of

establishing Africa’s first COVID-19 mRNA vaccine technology

transfer hub, with strong public and private-sector

participation, backed by the World Health Organisation, WHO,

together with its Covax partners. This groundbreaking

initiative has been hailed by the Director-General of the WHO,

Dr Tedros Ghebreyesus, as a pioneering trendsetting innovation

for the rest of the world.

As part of building South Africa's capabilities for vaccine

manufacturing, Biovac, which is a public-private partnership

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between the South African government and the Biovac

Consortium, entered into a strategic partnership with Pfizer-

BioNTech to produce approximately 100 million doses of Pfizer-

BioNTech mRNA vaccines annually. I must say that we see this

platform as laying the ground for developing the use of mRNA

technologies to develop novel vaccines and therapies for other

types of afflictions, including cancer, cardiovascular and

autoimmune diseases.

In order to respond to the local and continental demand for

COVID-19 testing and to reduce our dependence on imports, we

established a fund which led to the development of two novel

COVID-19 diagnostic tests, one by Medical Diagnostech and the

other by CapeBio. I am pleased to say that both of these

diagnostic tools have been approved by the SA Health Products

Regulatory Authority, Sahpra.

The recent devastating floods in KwaZulu-Natal and other parts

of our country reminded us not only of the threats posed by

rapid climate change but also highlighted the vital role of

science, technology and innovation in its mitigation and the

adaptation of our communities to these new realities. During

these unfortunate floods, we managed to leverage the existing

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infrastructure and investment made in our national system of

innovation by providing critical input using remote sensing

technologies, in particular satellites, to provide imaging for

accurately targeting water-flow patterns, its effects on

transport infrastructure systems and ... for better spatial

planning.

The input made by both the Council for Scientific and

Industrial Research, CSIR, and our national space agency, the

SA National Space Agency, Sansa, has been exceptional, working

together with other government departments, providing decision

support tools and working closely with the Water Research

Commission. The work spans from road and bridge infrastructure

assessments to the Coastal Vulnerability tool and Index that

we have developed, which is an interactive decision support

tool and integrated geospatial flooding index for coastal

cities and town development, and is linked into the SA Risk

and Vulnerability Atlas. Work includes input on access to

health facilities, to water quality monitoring and

infrastructure. I am also pleased to say that what is

available for immediate use is a decentralised mobile water

and wastewater treatment system that is used as an emergency

or temporary treatment system directly from source.

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This is science, technology and innovation at its very best,

at the service of society and at the service of our people.

For this reason, we will continue to invest significantly in

research and development that builds the adaptive capacity and

resilience of some economic sectors to climate change impacts.

This includes heightening our research and development

activities in urban and rural spatial planning for future

human settlements, although much more public funding is still

required for science, technology and innovation in our

country.

One of our major preoccupations is to develop a road map for

science, technology and innovation for a circular economy,

given the pressure of finite natural resources and sensitivity

to global warming risks.

*IsiZulu*:

Ziningi izinto esizilahlayo engabe sibuye sizithathe uma

sizisebenzisile, siziphendule futhi sizilungise kabusha ukuze

zibuye zisebenziseke loku esithi i-circular economy

ngesilungu.

*English*:

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Through the Innovations for Service Delivery Programme, funded

in partnership with the EU and National Treasury, we have

demonstrated pilot technologies and innovations to improve the

delivery of basic services by our municipalities. I am proud

to say that, in partnership with the SA Local Government

Association, we have expanded the number of municipalities

participating in what we call the Municipal Innovation

Maturity Index, which is now digitised and that measures the

capability and readiness of local government to adopt

innovation and technology.

Through Sansa, South Africa has been designated to host one of

the 24-7 Regional Space Weather Centres in Hermanus in the

Western Cape by the International Civil Aviation authority. I

am very happy about this as well. We will officially launch

the centre in October this year. The launch of this capability

will provide South Africa with the opportunity to showcase the

value of science, technology and innovation, and to attract

the region and international partnerships to utilise the newly

constructed Space Weather Centre.

Significantly, we have also launched three locally-produced

nanosatellites as part of South Africa’s new Maritime Domain

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Awareness Satellite constellation. The satellites will detect,

identify and monitor vessels in near real time in support of

South Africa’s maritime domain awareness strategy. We have

invested over R30 million in the development of this high-tech

capability.

*IsiZulu*:

Ngesintu nje esilula sesizokwazi manje ukuthi sibe

nobuchwepheshe bokubala ukuthi mingaki imikhumbi edobayo noma

eyenza eminye imisebenzi la olwandle olugudle izwe lakithi.

Sikwenza lokho singahleli olwandle kodwa sihleli le phezulu

sibuka ukuthi izinto zenzeka kanjani kwilwandle ezakheleni

nezwe lakithi.

*English*:

The South African and Australian governments are cosignatories

to cohost the Square Kilometre Array Observatory, SKAO**,** array

telescopes and associated infrastructure to the value of

€2 billion over the period 2021-30. Through the Square

Kilometre Array, SKA, we will be producing a whole new

generation of science and scientists, many of whom are now

being trained in South Africa. Our South African companies and

the SA Radio Astronomy Observatory will benefit immensely from

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the rolling out of this infrastructure, which includes the

building of the SKA Exploratorium in Carnarvon in the Northern

Cape. The initiative is expected to boost science awareness

and outreach, stimulate science tourism in the region and

create employment. In particular, we will also focus on

ensuring the production of more black and women scientists and

specialists on this front. I want to say that as the Minister,

my primary aim and goal is to ensure that we drive an

overarching transformation project in the science, technology

and innovation space, so that we are able to affirm black

South Africans, black women in particular, as scientists and

researchers. This is one of my priorities as Minister of this

department. The MeerKAT telescope, built by South Africans,

does great scientific work and will continue to do so until it

is fully integrated into the SKA in the next five ...

[Inaudible.]

Allow me to share with you our plans and upcoming programmes

for the next two years of this administration. Through the

digital plan, we have identified the digital economy as one

area in which we are going to channel our resources. I am

pleased to say that I have also instructed the National Skills

Fund, under the Department of Higher Education and Training,

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to support this by prioritising training in digital skills,

especially for our youth. I have also targeted monies from

some of the sector education and training authorities, Setas,

to also elevate investment into training in the digital

economy.

We have identified six foundational digital domains on which

South Africa should focus its resources for the next 10 years.

These domains include artificial intelligence, robotics and

cybernetics; augmented, virtual and mixed reality; modelling

and simulation; blockchain and cybersecurity; the internet of

things, and so on. All these developments will be implemented

as part of the Foundational Digital Capabilities Research

programme of my department.

We are currently developing a business case for the

establishment of a national solar research facility that will

support the development, commercialisation and deployment of

solar-based technologies for application in both the solar

power and fuel sectors. More details will be shared in this

regard.

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As part of ensuring greater whole of government and whole of

society innovation, we have already begun with a new

institutional architecture to build better co-ordination,

cohesion and direction in how science, technology and

innovation resources are used.

Firstly, we have already begun with the work of the standing

ministerial-level science, technology and innovation

committee, involving key ministries and chaired by myself, of

course with the authority of the President.

Secondly, the President of the Republic will host an annual

science, technology and innovation plenary which will include

business, government, academia and civil society. This will

place science, technology and innovation issues at the centre

of our national developmental agenda. We are also leading the

open science policy development process to develop a clear

vision and rules of the game.

To encourage the private sector to invest in research and

development, government has extended the current tax research

incentives dispensation until the 31st of December 2023. We

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are doing this in order to ensure that there is certainty and

planning around research incentives.

Beyond this, we are firmly committed to leveraging both public

and private resources to increase gross domestic investment in

research and development as a percentage of our GDP with the

aim of achieving the National Development Plan’s target of

1,5% by 2030.

As I conclude, South Africa will be the first country in

Africa to host the World Science Forum, which is a biennial

international conference series on global science policy, and

that brings together leading scientists, researchers, private-

sector players, civil society and global media to discuss the

challenges facing science and societies in the 21st century. I

invite you all to this hybrid event which will be held from

5 to 9 December 2022 in Cape Town.

The Department of Science and Innovation’s total budget is

R9,1 billion for 2022-23, up from R8,9 billion in 2020-21. The

majority of the department's budget is spent on transfers to

entities, with the National Research Foundation receiving the

single largest share.

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I would like to restate that the Department of Science and

Innovation is steadfast in its commitment to the full

utilisation of science, technology and innovation to support

the sustainable and inclusive development of South Africa’s

society and economy, with particular emphasis on the

marginalised and the poor. The true purpose of science,

technology and innovation lies in the quest of securing an

enduring and equal human freedom for all our people in a

vibrant democracy, free of hunger, alienation, prejudice and

ignorance. It is a science truly at the service of society.

*IsiZulu*:

Mangiphethe Mphathi Wohlelo osesihlalweni ngokuthi ngibonge

kakhulu uMongameli wezwe lakithi, ubaba uCyril Ramaphosa

neSekela Mongameli kanye nozakwethu esinabo esigunwini

sikahulumeni kazwelonke ngokungelekelela kwabo kanye

nokusebenzisana kahle neSekela likaNgqongqoshe uManamela kanye

nekomidi lasePhalamende.

Ngicela ukubonga nowakwami kanye nabasebenzi bami ehhovisi

likaNgqongqoshe, kanye futhi ngibonge noMqondisi-Jikelele

uDokotela uPhil Mjwara kanye nabaphathi asebenza nabo kulo

Mnyango, nabo bonke abakumaBhodi, nabaphathi, nezinhlangano,

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nabo bonke esisebezisane nabo ukuze sikwazi ukuthi sifike la.

Ngalamazwi sithi lo hulumeni oholwa uKhongolose uyakwazi

ukubaluleka kwezobuchwepheshe ekwenzeni izimpilo zabantu

bakithi zibengcono.

*English:*

Thank you very much, hon House Chairperson and hon members.

Ms N T MKHATSHWA: Thank you very much House Chair. Hon

members, Minister Nzimande, ...[Inaudible] ... members of the

national system of innovation, Members of Parliament but most

importantly citizens of South Africa, sanibonani (greetings.)

Before we continue to debate this Budget Vote, we as a

Portfolio Committee on Higher Education, Science and

Innovation unequivocally, state that we are appalled by the

repulsive and nauseating behaviour of the University of

Stellenbosch student, who urinated on a fellow student’s

belongings.

The committee just having visited the University of

Stellenbosch on 16th February of this year, to receive a

briefing on the very subject of the transformation journey at

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the institution, is now more than ever convinced that much

more work has to be done at that institution. In fact, our

visit was qualified. These blatant acts of racism and

disrespectful attitudes unleashed on black students, is an

insult to our hard-fought democracy, and should be condemned

to the fullest and not be tolerated at our learning

institutions.

The committee reiterates its stance on advancing the

transformation agenda, which emphasizes nonracialism and

inclusiveness, and will continue to vigorously monitor and

plat robust oversight in the realization of this

transformation journey, at the University of Stellenbosch

amongst other institutions. We note and welcome the suspension

of the perpetrator and want to implore that this matter be

subjected to the due disciplinary processes of the

institution, and that justice must prevail for the affected

student.

We call on the university to ensure that the affected student

immediately receives mental health support. In fact, there are

many in the institution who may have been affected and

triggered by this racially charged incident, and they too must

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receive mental health support. We should continue on a daily

basis in our different areas of work, strive to do our part to

ensure inclusion, justice, dignity, and combat racism in all

its manifestations.

The agenda on need to transform institutions of higher

learning to make them nonracial, nonsexist, inclusive and

intersectional spaces, does not exist in isolation to the need

to expand and transform the national system of innovation

regarding human capabilities, the institutional landscape and

research systems as articulated in the White Paper of Science

and Innovation.

Hon Minister Nzimande, I am glad that you want to have a

broader approach to transformation in science and innovation,

because in November 2021, I was invited by the National

Research Foundation to present an award at a ceremony where

the National Research Foundation, NRF it was recognizing

qualifying researchers and institutions for the years 2020 and

2021 in several categories, including NRF A and P-rated

researchers.

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Before I express my concern and what I witnessed at these

awards perhaps Let me begin by clarifying why A or P-rated

scientist or researcher is. Hon members, an A-rated scientist

will be those who are unequivocally recognized by their peers

as being the leading international scholars in their field for

the high quality and an impact of their recent research

outputs. Whereas, P-rated scientists or researchers would be

defined as young researchers usually under the age of 35, who

have the potential to become leaders in their field.

As I sat through the NRF awards that were acknowledging A and

P-rated scientists, I became alarmed and discomforted to

observe a very linear pattern of recipients. The makeup of the

collective of recipients that received awards as A or P-rated

scientists was not intersectional, not inclusive, nor

representational. Speaking against the founding provisions of

our Constitution that remind us that, this democratic state

was founded on the values of nonracialism and nonsexism. It

was only when we were looking into P-rated scientists that we

began to see a bit of colour. In fact, I would say hon

Minister, a drop of colour.

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Ways in which we can address the lack of representation in

science, technology and innovation is by ensuring access to

higher education, ensuring success within the space, ensuring

funding for postgraduate studies, and being intentional about

awareness and recruitment. We must as the portfolio committee

of course knows the efforts of the department in this regard

and the call on acceleration in realizing this.

Hon Manamela, it remains our priority to raise concerns on the

transformation of science and innovation in it placing as a

science for the people, by the people with the people.

Because, contrary to the beliefs of some and they will come

and follow in the debate. Contrary to the beliefs are some

science innovation is not an elitist department or will it not

be an elitist department, as it is critical being a catalyst

for the socioeconomic development of this country? Science and

innovation ought to respond to the daily socioeconomic

realities of the various communities of South Africa, and so

it does.

This we have collectively seen in the national system of

innovation’s response to the COVID-19 pandemic. The ability

for South Africa’s national system of innovation to contribute

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to saving the lives of many, was based on South Africa’s

historic investment in building national science, technology

and innovation capabilities. A further example of how these

investments have built local capabilities is that in this year

alone, the country has launched a Hydrogen Society Roadmap

which the Minister has spoken to, which seeks to enable the

country to participate in the global hydrogen economy, that

will assist with the just energy transition and fulfil the

global aim of moving to net zero carbon emissions, in efforts

to curb and mitigate global warming.

Related to the challenge of global warming and climate change,

we acknowledge the disaster of the floods and KwaZulu-Natal,

Eastern Cape and Northwest. We say to the families who have

lost their loved ones ...

*IsiXhosa*:

... tutwini, akuhlanga lungehlanga ...

*English*:

... and to the other many families who are still looking for

their loved ones ...

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*IsiXhosa*:

... iNkosi mayibe nani.

*English*:

We really hope that through government intervention, you will

be able to find your loved ones.

Hon members, it is scientific innovations such as satellites

for earth observation used by the SA National Space Agency,

that provided the various agencies responding to the KwaZulu-

Natal Flood Disaster, with images showing the impact of the

flood. These images served to assist not only with the

immediate response efforts, but also the future planning in

terms of remediation and rebuilding. We implore the department

and its entities to play as greater role as it played in

responding to the COVID-19 pandemic, in providing science,

technology and innovation, STI dependent mitigations and

solutions, in response to the current floods and the overall

climate change crisis that the country is experiencing.

These investments in the sector have yielded testaments of how

science and innovation is critical in the inclusive

development of a capable and developmental state, and how...

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[Inaudible] ... in science and innovation as a catalyst for

the socioeconomic development of this country. It will be

important to instil a culture of valuing STI and integrating

it into government planning, and budgeting at the highest

levels. Thus making the finalization and implementation of the

decadal plan quintessential. We must reiterate in this august

House that we hon Minister, as the committee will be

supporting the department by hosting a joint committee

meeting, to look into how we can create an enabling and

inclusive governance environment for the societal integration

of science and innovation.

Hon members, we understand that the sector is required to do

more with less, concerning that whilst the budget allocation

increases nominally by about R120 million, bringing it to a

budget of R9,1 billion, when adjusted for inflation there is

actually a real decrease of 2,9%. While we share the concerns

of the department on how this may impede on the scale, speed

and impact on the department and its entities’ work, we must

implore on colleagues to ensure that, funds are used

appropriately, effectively and efficiently to avoid

underspending.

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We remain in all and support of the great work of the

Department of Science and Innovation. Just to speak on the

work that’s been done with hydrogen in South Africa, the type

of collaboration we saw were within the department, it is

across its entities as entities working with institutions of

higher learning to support the various pillars of higher

education, science and innovation, HESI. That particular type

of integration and collaboration of different government

agencies and public institutions is really phenomenal. It is

something that we really want to see take place across

government at large, particularly in integrating scientific

innovation into government.

Hon members in this month where on 8 May 1996, we adopted the

Constitution of this democratic South Africa, marking 26 years

of its existence. Allow me to dedicate this Budget Vote to the

late Ndoni Mcunu. Ndoni Mcunu who dies on 16 April 2022 at the

age of 33, was the founder and Chief Executive Officer of

Black Women in Science, a researchers programme that aims to

encourage the participation of women in science technology,

engineering and mathematics, careers, technology, mentoring

and education. Ndoni was a climate scientist and NRF and a PhD

candidate at the University of Witwatersrand. Her excellence

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was demonstrated by the number of accolades she held,

including being selected as a GreenMatter Fellow for her

academic research on climate change and agriculture. She was

also listed as one of the Top 50 most Inspiring Women in Tech

in South Africa in 2017 by the Kingdom of the Netherlands and

South Africa. She was one of the Top 200 Mail and Guardian

South Africans in 2016. There are many other accolades that

Ndoni had.

I dedicate this budget to Ndoni in this month that we

commemorate our Constitution because science, technology and

innovation must continue to assist us in bringing to life this

globally ...[Inaudible] ... Constitution, which seeks to

address the structural inequities in this country deeply

rooted in apartheid regime’s total disregard for equality for

all. The ANC moves for the adoption of the Budget Vote 35. We

commit ourselves Minister to supporting the Ministry, the

department entities and the sector at large in the

implementation of these plans within the given budget. Long

live the undying spirit of Ndoni Mcunu! Thank you very much

House Chair.

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Ms N I TARABELLA MARCHESI: Hon House Chairperson, first of all

I would like to express my heartfelt pain of what happened to

the student at the Stellenbosch University. As the DA we did

release a statement this morning condemning the act, because

we believe that this was uncalled for and as South Africans we

can never have a situation like this happening in any

university or in any institution of our learning. We welcome

the swift response by the leadership of Stellenbosch and we

urge everybody to kind of give the leadership of Stellenbosch

to be the ones to deal with the situation. I thank you.

Hon Chairperson, allow me to dedicate my Budget Speech to my

late professor, Prof Walubo. I wish to honour his legacy in

science and innovation. His contributions, particularly in the

faculty of health sciences in South Africa and

internationally, resulted in ground breaking research in

several platforms like liver enzymes and many other areas.

However, what stands out to me was his development of

indigenous knowledge system unit which we took over research

science and which continue to function carry his legacy at the

University of Free State. I will forever be grateful to him as

his former student and a colleague.

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Hon members, it is on the shoulders of this ex scientist we

stand. They exist in small pockets of our society, yet they

pioneer research that impacts our society in manners that we

can never comprehend. They make things happen and they do so

with limited resources, but carry their responsibilities with

intellect, vigour and go beyond their scope of work.

Hon Chairperson, our science research fraternity work under

challenging and unacceptable conditions. For instance, when we

visited with the committee the Square Kilometre Array, the

MeerKAT site in Carnarvon in the Northern Cape, we discovered

there that because of resources, they are unable to keep or

retain their scientists. That is poorly because of the limited

resources that they do not seem to have to keep the

scientists.

In addition, they exist in a community that has a severely

highly rate of foetal alcohol syndrome. They took upon

themselves to provide a science lab at a neighbouring school

in order to see scientists come out of Hannover.

Equally so in Sutherland, where the SA Astronomical

Observatory sites sits, it sits parallel to a society that is

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extremely impoverished with social ills. They allocated a

portion of their budget to hire a mathematics teacher to teach

at a nearby school.

In addition to donating a science laboratory equipment and

also a community centre as a way of assisting the community.

They could not exist in a space where there is no potential of

emerging scientists within its midst. Without a mathematics

teacher in Sutherland, chances of an astrology graduate coming

out of Sutherland becomes almost impossible.

We are indeed a caring nation that extends itself to land a

hand to one another. What we would like is a caring government

that can see potential in investing in our human capital. A

government that is not corrupt that does not steal money that

is intended to better the lives of the poor. Young South

Africans are full of talent. If that talent is not realised,

they become the Alon Musk of the world who turn to sucked

elsewhere instead of their country of birth.

Hon Chairperson, budget cuts have a rippled effect. Its impact

result into a chain reaction which impacts the project funding

which means that the time of the project is delayed. It

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impacts the number of researchers responsible to carry out the

project, because they are not certain if the funding will be

adequate to carry the project to fruition, nor the funding to

be optimal. It impacts on the spinoff company that could be

realise from such research, therefore impacting the potential

of job opportunities that we desperately need for our youth.

Hon members, we were told during this very budget debate in

2020, that the budget cuts on science and innovation was due

to the outbreak of COVID-19. Budget cuts in this Vote have

been going on for the last 20 years. What differs is which

programme is experiencing the budget cut. However, it has been

a continuous phenomenon. Yet according to the Organisation for

Economic Co-operation and Development, OECD, Main Science and

Technology Indicators, published in 2022 March and I quote:

Organisation for Economic Co-operation and Development,

OECD, economies continued to increase investment in

research and development in 2020 despite the sharp

decline in economic activities due to the COVID-19

pandemic. The research and development expenditure in the

OECD area grew by 1,8% in real-time in 2020. While this

represent a sharp slowdown compared to previous years

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when the research and development was growing at 5%

annually, it marks the first time on record in which a

global recession did not translate into a drop in

research and development expenditures. This reflects how

investment in research and development have been an

integral part of the response to the crises.

However, in South Africa our target on research and innovation

for 2008 was a percent of the gross domestic product, GDP,

with an increase of 1,5% in 2019. Now we focussed a 1,1% of

the GDP in 2024, with a focus of 1,5% in 2030 purely because

our economy is not growing. In fact, we are regressing.

Hon Chairperson, the budget cuts come mostly because the

targets sometimes are not met. However, if you look at the

budget of science and technology that the targets sometimes do

not speak to targets that have been set. They do not seem to

be adequate enough. The budget is not adequate for those kind

of targets that have been set. Therefore, it sets the

department into failure, whereby they are unable to meet the

targets that they need. That is something that has to be

looked at. Alright. Thank you, Chairperson. [Time expired.]

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Mr S TAMBO: Hon House Chairperson, listening to the hon

Nzimande, one can only be left with immense depression that

the Minister which should tie himself on the department that

should lead development, has degenerated to be a glorified

host of seminar, symposiums and discussions with the global

world, while playing no meaningful role in contributing to its

developmental trajectory.

The white racist boy, who urinated on the desk, laptop and

belongings of a black student in Stellenbosch University, did

so precisely because we are a glorified host, who play no

meaningful role in science, innovation or the economy. The

racist white boy urinated on all of us, because Ministers such

as Nzimande and the President he praises, have not led a

government that warrants respect. As such, those who are

descendants of colonial conquest, urinate on us because, they

do not respect African people and they do not respect those

who lead us. For those who lead us are happy with platitudes

of presence and company of the develop world rather than

developing ourselves.

Hon House Chairperson, the EFF wishes to state unequivocally

that the continued underfunding of the Department of Science

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and Innovation is at the centre of this country’s dwindling

developmental agenda. There is a deliberate attempt to

undercut even the departments that show assemblance of

potential or capacity. This department is suffering no

different fate.

With a R9,1 billion budget allocation for the year 2022-23

which represents a real decrease of 2,95% when considering the

inflation, the marginal and superficial increases in some

areas becomes meaningless. The decrease from R87,7 million to

the R4,2 million in the budget allocation for environmental

innovation, is a spit in the face of the calls of renewable

energy and the bundling of fossil fuels which has been used in

the directionless disguise of abandoning the use of coal.

The lack of budgeting, but also the lack of basic presence of

the department to the social, economic and technological

terrain in the country, is precisely what has left this

country vulnerable to external forces guiding our repproach to

environmental issues and policy planning. This means that the

department is culpable in the junior status of South Africa in

the innovation space globally.

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The report reads that as of 30 September 2021, the department

had a vacancy rate of 23,3%, of which 17,4% is at senior

management level. This is a clear indication of the lack of

direction which characterises this department.

As the entire world shifts towards mechanising of increased

technological presence in the lives of ordinary people, South

Africa still grapples with challenges of spectrum allocation,

access to Internet, lack of access to water and pit toilets,

because the department that should lead innovation to

eradicate exclusion and poverty, is stagnant and budget cuts

are part and parcel of that reason.

House Chairperson, the last time we voted on the budget of

this department, we were extremely critical of the fact that

the department does not seem to play even an advisory role on

the trajectory of the state-owned enterprises and how they can

be lifted on the economic growth and innovation. It does not

seem that much has changed since then and the department is

emulating the importance of the President that has sets its

priorities.

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We are again in this report calling for crosscutting

departmental presence of this department’s agenda in

government repeating something that simply does not come to

fruition. The only priority that this government supposedly

emulated from the priorities of this country’s President, is

to entrench a lack of transformation in the sector and

unemployment.

The department cannot claim to meet immediate targets that it

has set with the budget constraints imposes on it. Meaning it

is subjecting us to nothing but some sub objective presented

to us for the sake of compliance. We therefore cannot

therefore in good conscience support this Budget Vote. Thank

you very much.

Ms M D HLENGWA: Thank you, Chairperson. Hon Chairperson, since

the outbreak of COVID-19, we have been witness to many

technological shifts in the way we work, socially interact and

prioritise our social and environmental responsibilities. Our

number one focus has been putting considerable effort into

addressing the shortcomings of our public health system. As a

result, science and innovation has a crucial role to play in

guiding the trajectory of South Africa in this regard.

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Science and innovation needs to play a more active role in

developing our national and global emergency protocols,

whereby factual information is the key driver to decision-

making by the government. With the development of the Fourth

Industrial Revolution and all its various tools, information

is readily available but not accessible to all. What is needed

is a more complete strategy that delves into the details of

the vision of the socioeconomic needs of the country, the

required supporting infrastructure across the economic

spectrum, as well as proper emergency response mechanisms.

This is something that government’s current National

Development Plan, NDP, falls short of in many aspects.

It is the duty of this department to ensure that science and

innovation becomes fully integrated in the decision-making of

all citizens of this country. For example, we have seen many

conspiracies, which have led to a surge of suspicion around

the COVID-19 vaccination, which could be attributed to a lack

of overall understanding of the treatment. This is something

that the government needs to invest in over the foreseeable

future, so that people are not misguided or coerced into

decisions because they do not have all the relevant

information readily accessible to them.

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Chairperson, we must strive to grow our capacity in support of

the Committee’s recommendations regarding its transformation

agenda. The development of transformation growth, beyond

funding at undergraduate levels of education, is a sought-

after reform for this sector. We are clear witnesses to the

tragic underrepresentation of skilled and capable women in the

science, technology and innovation fields. Women who come from

previously disadvantaged backgrounds need to be supported at

postgraduate level.

*IsiZulu:*

Abantu besifazane Ngqongqoshe uyabazi ukuthi le emakhaya

bafundile kodwa abanakiwe noma eseqashiwe ke eqashwe nomyeni

wakhe abefunda naye, ngumyeni wakhe ohola kakhulu. Bona nje

cha. Abanye baze bashintshe ngisho ama-“careers” abo,

Ngqongqoshe bayoba ngokheshi ezitolo ngoba abaqashekile.

Ngiyacela ukuthi lo Mnyango uke ubanake mhlawumbe ubeno-

“database’ yabo ukuze bazeke ukuthi bakhona khona le

eMambundwini, KwaCeza, Okhukho koDambuza. Noma sebeqashiwe ...

*English:*

... they are paid considerably less than their male

counterparts and underrepresented at all industries. This does

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not ... [Time expired.] ... The IFP support this Budget Vote.

Thank you.

The HOUSE CHAIRPERSON (Mr C T Frolick): Thank you, hon member.

Your time has expired. Hon Letsie, you had your hand up.

Mr W T LETSIE: Yes, Chair. I did not want to disrupt hon

Hlengwa there. However, I was just asking that if the camera

is not sitting right, can we switch it off, please? Thank you

very much.

The HOUSE CHAIRPERSON (Mr C T Frolick): Yes, hon members,

there is connectivity issues at the moment as we approach the

load shedding that will take place. So, you may switch off

your camera if you are experiencing difficulties. It will

definitely assist us so that we can complete this Budget Vote.

Thank you, hon Letsie. The next speaker is hon Boshoff.

Dr W J BOSHOFF: Thank you, Chair. Hon House Chair, the FF Plus

can be counted on to condemn racist conduct by students or

others. Experience has taught us to confirm the facts before

we make statements. A very unpopular person among members, I

have noticed, is the imaginary “trust fund kid” – a phenomenon

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some members seem to think is found behind every bush in some

communities. The reality is of course very different, but it

is easy indeed to dislike the beneficiary of someone else’s

labour, who thinks highly of his or her own merit, without

having demonstrated it. When such an imaginary trust fund

kid’s trust fund fails, the downfall might be rather brutal.

Having perhaps not utilised the benefits to cultivate the

knowledge, skills and attitude to benefit society, wealth may

soon become a distant memory.

Therefore, it is not only necessary to cultivate one’s own

abilities, but also to manage the fund to be feasible in the

long run. Some consumption is justifiable, but reinvestment to

keep the fund growing, is essential. What would this have to

do with the budget for science and innovation? The fact that

it is one of those departments which actually invests in the

future and future economies. Many other departments create

trust fund kids, by expending money on people who did not

contribute.

The state’s annual income is the trust fund. In theory, we are

all beneficiaries when we are young, we all become

contributors when we start working, and many of us become

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beneficiaries again when we are too old to work. This is

besides benefits enjoyed by people of all ages and

occupations. It is only when there are not jobs for everyone,

that some of us remain lifelong beneficiaries, without

contributing. Although this is never to be recommended, a

well-managed trust fund, or fiscus, may be able to deal with

it.

*Afrikaans*:

Die doel van hierdie Departement van Wetenskap en Innovasie is

om oorspronklike, vernuwende denke van ekonomiese belang te

bevorder. Dit is ‘n omgewing waarbinne stagnasie nie beteken

jy staan stil nie, maar dat jy agter raak. Dit is dus ‘n

departement wat voorkeur behoort te geniet, selfs as die

voordele nie dadelik sigbaar is nie. Die vraag is of

R9,1 miljard uit ‘n totale nie-rentebesteding van

R1,6 triljoen voldoende is.

*English:*

Just to mention the entities within the department; the

Academy of Sciences of South Africa works with R35,5 million,

the CSIR R3,46 billion, the Human Sciences Research Council,

HSRC, R559 million, the National Research Foundation, NRF,

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which also has to fund postgraduate students and various

cutting edge projects R4,3 billion, SA National Space Agency,

SANSA, the space agency, R316 million and the Technology

Innovation Agency, TIA, which evaluates and funds

technologically innovative and commercially viable enterprises

gets R583 million. In comparison, the Department of Small

Business enterprises, which finds it hard to demonstrate any

positive results, receives R2,56 billion from Parliament.

*Afrikaans*:

Wetenskap en innovasie as departement word nogal goed bestuur.

Daar is probleme, soos toe die Technology Innovation Agency,

TIA, die firma Kapa Biosystems heeltemal te goedkoop verkoop

het en ons kyk nog of die departement van die geld gaan kan

terugkry, en die heining rondom die Square Kilometre Array,

SKA, se 131 000 hektaar ... [Onhoorbaar.] ... wat steeds net

‘n belofte is. Verder is kontinuïteit, wat so belangrik in ‘n

kennisgedrewe ekonomie is, op die altaar van transformasie

geoffer.

Dit ... [Onhoorbaar.] ... soos genoem ... [Onhoorbaar.] ...

*Noord-Kaapse* onderwysdepartement nie kan ... [Onhoorbaar.] ...

as die omgewing waarin hy werk nie, en dan ... [Onhoorbaar.]

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... om energie as die visie net in daardie departement bestaan

het.

Suid-Afrika het baie hulpbronne, maar ook deurslaggewende

beperkings. Tegnologie en innovasie ... [Onhoorbaar.] ... maar

net gebruik tot dit op is en dan bedel? Of gaan ons belê wat

nodig is om lewensvatbaar te wees? Volgens hierdie begroting,

word die minimum belê in die vertroue dat wetenskaplikes die

wonderwerke wat nodig is sal verrig. Ek dank u.

Mnr W T LETSIE: Ons het niks gehoor nie, man. Jy praat te veel

Afrikaans.

*English*:

An HON MEMBER: What is happening?

An HON MEMBER: Maybe the Chair is cut off.

An HON MEMBER: Yes, it’s possible.

Ms T M JOEMAT-PETTERSSON: Hon members, it seems as if the

House Chairperson has been cut off. The hon Deputy Minister?

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THE DEPUTY MINISTER OF HIGHER EDUCATION, SCIENCE AND

INNOVATION: Thank you, new Chair who has taken over, members

of the Portfolio Committee on Higher Education, Science and

Innovation led by the Chairperson, Ms Nomphendulo Mkhatshwa,

the Director-General of the department, Dr Phil Mjwara;

chairpersons and chief executive officers of the entities and

more importantly our Minister, hon Dr Blade Nzimande, who I am

joining today representing this Budget Vote speech.

Hon Chair, I want to start with joining in members who have

condemned in the strongest possible terms the incident that

happened at the University of Stellenbosch. Through the

Minister, this morning, the Ministry issued a statement

joining in in the condemnation and also welcoming the swift

action by the university and that we are urgently waiting for

the outcomes of the disciplinary committee that will be taking

place.

We have also instructed higher health to provide support to

all the students who have been affected by this incident. And

we hope that justice will prevail for those particular

stories. So, we will also observe that there are more stories

that are coming out exposing the extent of racism at the

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University of Stellenbosch. Some of these being disguised as

initiation practices. And we hope that the university

management together with the university community will reflect

on all of these incidents and ensure that action is taken and

also that we deal with racism wherever it rest its ugly head.

And we believe that the university itself together with the

university community and all stakeholders on campus are more

than capable in whatever support that they will need to work

hand to provide.

One of the critical roles of the Department of Science and

Innovation is anchoring science amongst the people, and

making sure that science works for their development and for

the economy.

In order to achieve our overarching goal of using science,

technology and innovation to reconstruct and rebuild South

Africa, we need a capable and responsive state. It is for

this reason that we have adopted the District Development

Model as a platform to enable innovation in districts and to

deploy innovation and technology solutions to district and

metropolitan municipalities.

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In implementing this, we continue to prioritise women and

young people. For example, young people from Tvet colleges

received training as part of the projects under the Hydrogen

Society Roadmap that was launched earlier this year.

Another initiative is our Innovation for Service Delivery

Programme. Through this programme, we will demonstrate and

pilot technologies and innovations to improve the delivery

of basic services in municipalities, against the backdrop of

the District Development Model.

More specifically, this programme will support the

demonstration and adoption of technology solutions for

improving access to quality basic services such as water,

waste management, sanitation and green renewable energy

solutions.

We take the pleasure of announcing that a project using ICT

platforms for electronic participation in policy processes

by young people will be piloted by five municipalities.

It is our firm believe that we must deliberately use

science, technology and innovation to advance socioeconomic

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transformation and the development of previously

marginalised indigenous knowledge forms.

Towards this end, the implementation of the Protection,

Promotion, Development and Management of Indigenous

Knowledge Act, 2019, also known as the IK Act, will lead to

the development of new policy initiatives.

Related to this will be the development of regulations that

will enable the implementation of the Indigenous Knowledge

System Act and the establishment of a special Service

Delivery Unit that will serve as the authority regulating

the IKA sector.

One of the most important developments in this regard is the

setting up of institutional units for the recognition of

prior learning in Indigenous Knowledge System disciplines.

This will be a novel contribution by our department for

developing that indigenous knowledge that resides outside

the formal system of learning.

Further to this is the deployment of innovation

infrastructure and innovation support of marginalised

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communities to increase innovation activities by locals to

address context-specific local economic challenges.

One such intervention is our Living Labs. By the end of

2021-22 financial year, five Living Labs have been funded in

township and rural communities in KwaZulu-Natal, Western

Cape, Eastern Cape and the Free State, supporting over 200

young emerging innovators.

At least 1 000 young people will go through innovation

support programmes, with varying numbers going through more

advanced stages of the innovation support. They will gain

ICT-related skills and receive support for innovations

relevant in local contexts.

At the start of 2022-23, partnerships have been entered into

to set up six additional labs, bringing the total number of

labs that will be supported in this financial year to 11. We

will be expanding with this to the Northern Cape province.

We regard human capital development and in particular the

development of young scientists and researchers as essential

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to the effectiveness and growth of our national system of

innovation.

Over a five-year period starting in 2017, we have awarded

bursaries to more than 58 000 postgraduate students. This

comprise 43 000 pipeline, which is honours, BTech and

master's and postgraduate bursaries and 15 483 PhD

bursaries.

In the current financial year 2021 a total of 5 000

graduates and students were placed in the DSI-funded work

preparation programmes, namely, the government's internship

programme and youth volunteer programme.

Close to 19 000 researchers were funded by the National

Research Foundation managed programmes and 41 635 research

articles were published by researchers awarded grants in the

same period.

We continue to implement the new Postgraduate Funding Policy

with more than 6 000 postgraduates comprising 2 200 being

PhD and 4 200 being pipeline students targeted for support

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in the current financial year. We intend to provide support

to 3 000 researchers in 2022-23.

In line with our commitment to promote grass roots

innovation, for the period under review, we have supported a

number of SMMEs that are owned by black young people. And

there is one success story, hon Chair, that through my

attention being that of a young black Mechanical Engineers,

Mogale Maleka and Tumelo Pule.

Under the auspices of the AB Farms, Maleka and Pule looked

at a way to upscale the vertical piper system for small

scale and commercial farming. Both were able to successfully

test the prototype and it is ready to commercialise the

irrigation product.

These innovative youngsters are now working with the

University of Johannesburg PEETS on the second phase to

develop an all energy-efficient solution and a more

sustainable system with minimal cost and value for money

during production.

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The innovation out of Maleka and Pule's work is that it has

the ability to store water within the design to reduce the

amount of energy required to grow produce while

simultaneously increasing the planting density per square

metre, thus reducing costs and increasing production

capacity.

Hon members, for the period under review, through our brand

campaign, we undertook a public communication drive to help

the public understand how an enabling our national system of

innovation can deliver solutions that address the country's

socioeconomic needs.

Our campaign focused on highlighting the fact that the

investments we are making today provide the opportunity for

a better future and that partnerships with the private

sector and other key societal role players will enhance

government's efforts to use innovation to improve the lives

of our communities.

The specific areas that the campaign focused on includes,

the need to enable viable and competitive industries and the

need to modernise agriculture and mining, and the need to

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develop sustainable energy and use of research to support

evidence-based decision-making within government.

We were for example, able to demonstrate how the investments

we made yesterday in research have enabled us to harness

today's information to drive better decision-making during

Covid-19.

For this financial period until 2024, our brand campaign

will focus on building the DSI's reputation as an enabler

that is transforming the national system of innovation.

In our engagement to the public communication, we will be

highlighting current and future benefits of the investments

we are making in such critical areas as health innovations,

digital economy innovations, circular economy actions and

other key areas.

In conclusion, hon members, these are but just some of the

interventions that we made during the period under review.

And we will remain mindful of the fact that there is still a

lot more to do in order to bring science closer to the

people. Thank you very much for listening.

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Ms D P SIBIYA: Thank you, Chairperson, greetings to everyone,

to build a science and innovation ecosystem government fiscal

allocation and innovation should be able to fund the vision of

the department as contained in the White Paper and the Decadal

Plan. We debate this budget vote when our nation is still

confronted with the HIV and Aids epidemic. We are still

confronted by the coronavirus pandemic. We recently

experienced climate change, floods causing a national disaster

and we are experiencing an increase in unemployment and

widening inequality. All these social, economic and ecological

challenges will continue to erupt various points of human

civilisation. The competitive edge to adapt and mitigate the

impact as a nation will also depend on the capacity and

capabilities of our science and innovation system. We are in a

period wherein various scientists have prepared ...

[Inaudible.] at the time of pandemics. As African National

Congress ...

*IsiZulu:*

... kumele sishayele izandla ...

*English:*

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... the Department of Science and Innovation which has

demonstrated world-class capabilities in supporting the

nation’s COVID-19 response. Hon Chairperson, it is important

to note that we need to increase our doctoral graduates as a

nation, to increase our research capacity. We must also

increase the number of doctorate, academic capacity in our

universities as the average number of academic’s doctorate as

the highest qualification in the sector in 2019 which was

47,7%.

*IsiZulu:*

Yaba ngaphansi kancane kweyangowe-2018.

*English:*

This reflects an increase in demand of PHD graduates in our

economy as universities struggle to increase their doctorate

capacity. The National Research Foundation plays a critical

role in relation to postgraduate studies and the department

should continue to advocate for an increase funding to realise

the NDP target of 5 000 PHD graduates annually. The budget

adjustment due to prioritising COVID-19 has declined

postgraduate targets. We welcome the budget allocation to

support 3 200 doctoral students and 10 900 postgraduate

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students studying their B-Tech honours and masters’

qualifications.

Hon members, this is a progress towards building human

expertise for our nation. Hon members, to increase the

research outputs, funding needs to be provided to increase and

government remains a significant contributor of research

funding and even increase research funding during the pandemic

high period, which yielded evident outcomes.

Hon members, what are the lessons which we should take from

the pandemic in relation of research funding, and what impact

the research can have in addressing our challenges? We welcome

the 4 700 researchers awarded research grants per year through

programmes managed by the National Research Foundation. It is

critical that our research focus is also oriented to respond

to our national objectives to create an equitable society.

To advance socioeconomic innovation, the budget will support

... [Inaudible.] of knowledge and innovation products added to

the industrial development and green economy intellectual

property portfolio. We welcome the focus of the department in

supporting green economy initiatives and we note the

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innovation which was launched by His Excellency President

Cyril Ramaphosa when the world’s largest mine haul truck

powered by green hydrogen named nuGen in Mogalakwena PGM mine

in Mopane Limpopo.

*IsiZulu:*

Sayibona kumabonakude, ababuka izindab. Abangazibuki izindaba

bazozwa bexoxelwa ematekisini.

*English:*

This a clear demonstration that our country can adapt to the

changing world in an environmentally sustainable manner. Hon

members, this is an important focus if we are to prepare our

economy to transition, to a low carbon economy. Innovation

will enable the country to be part of this development and

participate in value chains rather than being users of

technology, but be developers of technology. In our

engagements with the various entities of the department, we

questioned the capacity of early warning signs of our country

and the role of the Department of Science and Innovation. The

South African National Space Agency makes a critical

contribution through the space weather centre by proving early

warning systems to indicate how space weather could affect any

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technological system such as satellite TV and satellite

navigation technologies. These challenges require the

department to work with other departments.

*IsiZulu:*

Yonke iMinyango, ayikho ezosala eceleni, uhamba phambili

uMnyango weSayensi kanye nokuSungula izinto ezintsha.

*English:*

To ensure that user department has adequate systems to

translate the data into actionable intervention to mitigate

the impact of climate change disasters. Hon members, as the

South African National Space Agency is breaking grounds for

the nation, three locally produced nanosatellite were launched

in the United States. This demonstrated the opportunities

South Africa can build on. It also reflects our ability to

industrialise the economy if we increase investment in

research and development.

We have called on the department to expand the capacity to

occupy a prominent space in the global satellite value chain.

We have urged that entities supported by the department to

expand skills development of science scarce skills. This

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budget provides support for the Human Science Research Council

with R321 million. The entity plays a major role in providing

social science research which shape policy in the development

and analysis of the social sector.

We further urge the department and its entities to further

support indigenous knowledge system, innovation and

acknowledge technological Innovation Agency R30 million

support for the Phela COVID clinical trial. This is a

collaboration by the University of Free State and the Beijing

University of Chinese Medicines, which is the country and the

subregional best for the traditional medicine controlled

clinical trials and clinical trials for COVID-19. Science and

innovation should be promoted in our society as this enables

to respond to the challenges confronting the nation. As the

ANC, we support the budget vote to continue to promote science

in our country and to support innovation.

*IsiZulu:*

Ngiyazibongela Sihlalo.

Ms C V KING: Thank you, House Chairperson. Colleagues in the

Science and Innovation sector, we welcome the University of

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Stellenbosch for the swift action on the unintended

consequence of racism that took place and is reminded again

how racialized policies has indoctrinated our youth and is

felt even today in policy.

Scientific and technological advances have been long

recognised as engines of rising prosperity and economic

growth. Whilst just over two years has passed since the start

of COVID-19 pandemic, and we moved towards a new normal, we

realised the restrictions enforced during the pandemic acted

as a catalyst to drive change. The way research was carried

out, mutated rapidly as a result of pressure placed on

scientists brought on by virus and its associated

restrictions.

In the meantime, 4IR technologies have offered a possibility

of ordering food and medicines online and delivering it right

at your doorstep. Mobile technology and artificial

intelligence integrated data collection source that can be

used for contact tracing, symptoms monitoring, detection of

outbreak and risk assessments. Instead of face to face

learning, universities and schools moved online using various

technological platforms such as Canva on Blackboard.

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Researchers continues to use WebEx to organised conference and

employers rely heavily on Zoom, Google Meet and Microsoft

Teams for videoconferencing. Many of these platforms will

continue to flourish long after the pandemic has come to an

end.

South African universities collaborated liberated with

international and national government to produce Personal

Protective Equipment, PPEs and ventilators. Cape Peninsula

University of Technology collaborated with the Western Cape

government and the Department of Trade and Industry to develop

and manufacture PPEs for frontline workers and the general

public. The University of Johannesburg engineering team

designed and developed a portable 3D-printed mechanical

ventilator with a customised base plate to simultaneously

treat multiple patients.

Countries with science, technology and innovation orientated

global competitiveness strategies have sustainable

comparativeness and long term growth. A Budget of

R18,1 billion coupled 0,26% GDP expenditure on research and

development, which in 2016 was 7,5%, is a drop in the ocean

when we consider the South African research comparativeness

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and technological output. This is substantiated with

R5,1 billion in allocations to Programme 4, research

development and support. Once adjusted for inflation,

represent a real decrease of 2,2%.

The kleptocracy in our country have seen approximately

R1 billion of tax payers’ money spent on the Zondo Commission

to investigation lootings in state capture; estimated to have

cost the country over R49 billion. Let’s pause on this for a

minute. Our people are faced with steep food prices, 2litre

sunflower oil costing a R100. A 2,5kg sugar costing R55. A

2,5kg flour costing R27. And, a 2,5kg maize mail costing R28.

To squeeze the purse even more, petrol and electricity prices

have increased exponentially, making the cost of living

unaffordable for those living from pay check to pay check and

to ordinary citizens living below the living wage mark.

Money lost to state capture and expenditure on the Zondo

Commission could have been directed into research and

development of food security and hydrogen measures to mitigate

and adapt to climate change and innovative, infrastructure

development to relieve the tight squeeze purse of our fellow

countrymen.

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So yes Mr President, science and technology is vital to bring

about economic growth. This is achievable through foreign

direct investment to promote and exchange scientific and

technological knowledge and accelerate the national diffusion

of import technologies. South Africa’s brotherhood with

countries in Brazil, Russia, India, China, and South Africa,

BRICS have excluded Taiwan and Israel ... [Inaudible.] ...

commitment to share the technological advancements in health

care, Tax Start-ups and water and food security, all to the

benefits of citizens and knowledge generation. These signs

have once again shown that what is good for the citizens of

this country, is not necessarily good for the ANC.

All systems are in place at the Science, Innovation and

Innovation entities. It just needs a reprioritised view and

science to ensure economic activities are science and

innovation driven. How can this be done? The National Advisory

Council on Innovation should play a pivotal role in the advice

to the Presidency to ensure that all government departments

have synchronised priorities and measures in place to realise

the economic, reconstruction and recovery to offset the

ticking time bomb of unemployment.

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Minister, there is genuine fear that these cuts will damage

... [Inaudible.] ... irrevocably, and that once they are

taking place, it will be beyond repair. However, Minister,

racialized policies are chasing people out of this country who

could do a meaningful contribution. You don’t have to take my

word for it. You just need to ask Elon Musk why he left South

Africa. I thank you.

Mr B S YABO: House Chair, I was just having a bit of a

struggle with technology, setting it up. Hon House Chair, in

his state of the nation address this year, His Excellency the

President Matamela Ramaphosa, stated that the role of

government is to bring the conducive environment for economic

growth and job creation to happen. It is therefore the duty of

government to incubate an innovation led economic ecosystem

that allows for exponential growth domestic product, GDP,

growth through the exploitation of emerging ... [Inaudible.]

... technologies.

House Chairperson, we are currently living in an epoch of the

fourth industrial revolution. All these technological

advancements are critical component for the competitiveness of

the nation’s economy. Developed nations have distinguished

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themselves from innovation. And due to their agility of

adopting technological innovation as part of production and

other uses.

The question for as a nation is whether we are accorded

innovation the appropriate focus and support, to address our

socioeconomic challenges. We should further ask whether our

country has the innovation capability. The answer is yes;

South Africa has the innovation capability. The limitation is

the inadequate expenditure percentage of GDP, with a gross

expenditure on research and development sits at 0,83% in

2017-18, to 0,75% in 2018-2019 but it is currently sitting at

0,60% of the DGP, which is a decline, one of the target is

1,5% of the GDP.

Comparatively, our expenditure as a nation, inclusive of the

private sector and public sector is lower than other

developing countries such as Brazil with an expenditure of

1,16% of GDP in 2019. It’s therefore incumbent on government

and the private sector to prioritize investment in our

domestic research and innovation ecosystem.

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As a country we have relatively high innovative researcher

output in the overall growth rate between 2005 to 2010, at

8,06% which if developed some of the outputs can result in

commercial viable enterprises. Which will contribute to

addressing some of our social challenges and contribute to

economic growth.

Commercialization is an important mandate of the department

and its entities. And its programme of technological

innovation. This budget vote provides an allocation of

R458,4 million to the technology innovation agency.

We support efforts by the department to strengthen a

technology innovation agency through a ministerial review to

address amongst other things the lack of funding and a weak

commercialisation record. And benefits of innovation which are

not even distributed spatially and demographically.

The entity should be strengthening and more funding should be

secured for the entity to attain its mandate of supporting the

state and stimulating and intensifying technological innovator

to improve economic growth and quality of life for all South

Africans.

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We welcome the efforts of the department and the entities in

partnering with the private sector and other projects. What we

need to strengthen is our ability to crowd in investment to

support different innovation and to penetrate the market. We

are seeing the steady growth of new markets and the effort to

state off the negative effects of global warming such as

electric vehicles, renewable energy and power storage

technologies.

Major developments in the international stage such as the war

between Russia and Ukraine and the consideration of the No

Pact Bill in the United States, US, will accelerate the use of

renewable energy sources and electric vehicles as oil prices

soar to the unprecedented levels.

Our country stands at a ... [Inaudible.] ... of being a front

runner in exploiting the abundant resources of hydrogen power

at our disposal in our energy mix. Venture capital investors

should be encouraged to fund starters in this and other fields

to harness the innovation potential of the country and to grow

our economies through new economic sectors which can emerge.

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The department has targeted to generate 365 knowledge products

including public peer review scientific articles and the

filling of applications for the registration or granting of

intellectual property rights.

Intellectual rights protection is an important function the

department should continue to provide. From the national

intellectual property right management office. The department

should monitor the development of the intellectual property in

public entities. As this are at times not protected by the

institutions resulting in individual commercialization

publicly funded research without public benefit.

The recent coronavirus pandemic has demonstrated the fact that

despite public funding research on the coronavirus some of the

publicly funded research has resulted in private innovation,

resulting to profit sharing being a priority.

We welcome the department’s initiative of working with the

industrial development cooperation to increase funding support

for innovation.

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House Chairperson, government can play a critical role in

promoting domestic science and innovation. The Department of

Higher Education, Science and Innovation and its entities have

the capability to respond to numerous challenges confronting

different government departments and state-owned enterprises.

It is therefore critical, at national departments, state-owned

enterprises, provincial government and local government need

to leverage science and innovative initiative. A capable

developmental state should be able to leverage its own human

and technical capability to respond to challenges, it is

confronted with.

Hon members, artificial intelligence is transforming work as

we know it. Various services in business process are being

undertaken by robots and other innovations. As a nation how

are going to ensure that this changes do not become disruptive

such that they worsen inequality and poverty?

Hon members, a critical process which is yet to be fully

undertaken is the systematic integration of the Department of,

Science and Innovation and Higher Education and Training. The

merging of this department is conceptually correct. In order

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to strengthen the dialectical relationship of science and

innovation and higher education and training.

The Minister was recently in the United States of America,

USA, California, Silicon Valley and the area is a typical

integrated system of research and innovation and access to

finance, relatively being abandoned. We the department will

review other systems, indigenous systems for our own

conditions.

On health innovation the medical device and diagnostic

technology innovation cluster, is the initiative we support it

aims to stimulate and intensify technology, as well as

creating an enabling environment in support of increasing the

competitiveness of the industry. Key partners are the South

African Medical Research Council, the industry associations,

the Industrial Development Cooperation, the Council of

Scientific and Industrial Research, CSIR, the Department of

Trade and Industry and Competition, the National Department of

Health and the Global Health Innovation Accelerator.

These are types of initiatives which the department should

expand in different economic clusters. And the infusion of

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universities to ensure that all initiatives result to valuable

skills development for the youth and women. And this is why

the incident that would have happened in Stellenbosch

University does not auger well for the project of building a

cohesive society in general to pursue lawless production that

assist us in our economy.

House Chairperson, the Council for Scientific and Industrial

Research plays an important role in the innovation ecosystem

through fostering of industrial and scientific development and

the national interest through multidisciplinary research and

technological innovation, to improve the ability of the state

for efficiently deliver basic services in fields such health,

education, social security, energy and shelter to all South

Africans.

Recently the CSIR, Council for Scientific and Industrial

Research launched software which addresses of learners to be

able to read, due to visual empairment ... [ Inaudible.] ...

low literacy and other special educational needs. The software

breaks down these various by adding audio to publications and

synchronising it with a text in any of the 11 South African

official languages.

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The CSIR has developed a zero liquid gestures technology to

minimise ecological footprints of acid mine drainage. Revenue

generated from the resale recovered minerals in the process

will offset the running cost of the system making it self-

sustainable.

Increasing in research and development finance is an

imperative to support industrialisation efforts and our

scientists and innovators have demonstrated that they can

respond to our national developmental needs.

It is important to also state that the development of

Intellectual Property, IP and knowledge production requires

peer review, as part of the route to market and ensuring that

ideas are commercially viable. And so, what hon member ...

[Inaudible.] ... talk shows by the Minister and attending to

all those without having outputs, is incorrect because the

production of knowledge for commercial output, requires peer

review. And indeed will have that happening, the process of

attaining economic growth as part of the off spins. The ANC

supports the budget vote, to ensure we support our country’s

potential innovation and use it to develop and grow our

economy. Thank you very much House Chair.

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The MINISTER OF HIGHER EDUCATION, SCIENCE AND INNOVATION: Hon

House Chair, hon Tina Joemat, let start by thanking all those

who supported this budget vote and thank the hon Chairperson

Mkhatshwa for the points that she actually raised.

And also as our Deputy Minister said, we did issue a statement

earlier today condemning this incident at Stellenbosch

University. And I have indicated in the statement I am

awaiting a fuller report from the university once they’ve

taken all the actions that they have outlined.

I also wish to point out that the point raised by hon

Mkhatshwa about the need to play an important role in placing

Science, Technology and Innovation, STI, initiatives to tackle

COVID-19; it’s an important point.

I also just need to emphasize that, indeed, we did a lot, even

the World Health Organization, WHO, acknowledged that we

creatively used science in our daily management of COVID-19 in

a very creative way. We pursued a multidisciplinary approach,

we set up very early in the epidemiology and its evolution of

the epidemic genetic surveillance, we set up a scientific data

observatory and attitude surveys that were led by the Human

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Sciences Research Council, HSRC, and the National Institute

for the Humanities and Social Sciences, NIHSS, just to mention

some of the things.

To hon Machesi, what I would like to say, by the way, it’s not

correct to say that the community of Carnarvon and surrounding

areas where the Square Kilometre Array, SKA, is, are not

benefiting, it’s just not true, at all. The very fact that we

chose that side for SKA location was in itself an intervention

to change that place that it shall never be the same. We have

many other initiatives, for instance. We have established an

artisanal technical training centre there, we have trained 50

Small, Medium and Micro Enterprises, SMMEs, in

entrepreneurship other related skills, we have actually spent

about R170 million on local suppliers and 90% of staff

employed there is actually local. But it’s not only that, we

are also using our technology stations, grassroots innovation,

to support innovation both in urban and in other rural areas

in our country.

Sometimes I feel, with due respect, to respond to the EFF is

not really worth it because it looks like hon Tambo, since he

was made a spokesperson, he’s thinking about everything else

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other than what the EFF has deployed him for in Parliament. He

seems not to even understand what we are doing. Just go and

reread or just listen on YouTube on my budget vote so that you

see how much work that we are doing.

*IsiZulu*:

Mama oyilungu elihloniphekile le IFP ngiyavumelana nawe

ngendaba yokuthi siqinise ukuthi abasifazane bangene kule

mikhakha yezobuchwepheshe ...

*English*:

... that’s why we have Women in Science Award. And thanks to

the IFP for supporting us.

Hon Boshoff, yes, we agree with you. As other members have

said, our budget is not enough. We can do with much more

money. But we are not sitting on our [Inaudible.] What we are

doing, for instance, through the decadal plan and the

establishment of the Inter-Ministerial Committee on Science,

Technology and Innovation, we are pulling investment into STI

from across government so that we are better able to

coordinate and maximise the impact of those funds. We are also

in the process of establishing the sovereign innovation fund.

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Thanks also to uMama [Ms] Sibiya about emphasizing what we are

doing on postgraduate studies and research on the green

economy.

Hon King, I don’t know, maybe you will have to explain at some

other stage. I heard you saying that the unintended

consequences of the urinator at Stellenbosch, was that

unintended, what the urinator said? Maybe you will explain to

us because I actually just found that a bit of a shocking

statement on your part.

Hon Yabo, thanks for your comments as well. We are actually

not trying; we are coordinating. STI spent a mainstreaming

science, technology and innovation through our decadal plan.

And we do want to say that with this budget vote, we are in

for a very exciting financial to achieve the goals of making

science to serve our people better.

As hon, our late President, Mandela said, it always seems

impossible until it is done. Thank you very much, hon Chair.

Business concluded.

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House adjourned at 15:42.