**Report of the Select Committee on Education and Technology, Sports, Arts and Culture on Budget Vote 35: Science and Innovation, dated 14 June 2023**

The Select Committee on Education and Technology, Sports, Arts and Culture, having considered Budget Vote 35: Science and Innovation, reports as follows:

**1. Introduction**

The Department of Science and Innovation (the Department) derives its mandate from Sustainable Development Goal Number Four, National Development Plan, Action Plan to 2024 for Schooling 2030, and the Medium-Term Strategic Framework, to shape its plans such as the Strategic Plan and the Annual Performance Plans.

The Select Committee on Education and Technology, Sports, Arts and Culture (the Committee) considered the Budget and the 2023/24 Annual Performance Plan (APP) of the Department of Science and Innovation (the Department) on Wednesday, 21 May 2023. The budget review briefing served to acquaint the 6th Parliament Select Committee with the mandate, programmes and priorities of the Department.

This report gives a summary of the presentation made by the Department to the Committee, focusing mainly on the 2023/24 Annual Performance Plan and the 2020 Medium Term Expenditure Framework (MTEF) allocations. The report also provides the Committee’s key deliberations and recommendations relating to Vote 35.

**2. Summary of the 2023/24 Annual Performance Plan**

The Department, in the five years (2019 to 2024) had planned to implement the following set of priorities, which are expressed as Medium-Term Strategic Framework Outcomes:

* Outcome 1: A transformed, inclusive, responsive, and coherent NSI.
* Outcome 2: Human capabilities and skills for the economy and for development.
* Outcome 3: Increased knowledge generation and innovation outputs
* Outcome 4: Knowledge utilisation for economic development in (a) revitalising existing traditional industries and (b) stimulating R&D-led industrial development.
* Outcome 5: Knowledge utilisation for inclusive development
* Outcome 6: Innovation in support of a capable and developmental state

The 2023/24 Annual Performance Plan (APP) represents the fifth year towards the achievements of objectives contained in the Department’s 2020 – 2025 revised Strategic Plan. The presentation by the Department to the Committee outlined the Department's approach to the government-wide National Development Plan (NDP) and science and innovation sector priorities. The intention was to ensure programme activities in the sector were aligned with medium and long-term goals. The annual performance plan (APP) set out what the Department intended doing in the 2023/24 financial year and during the medium-term expenditure framework (MTEF) period, to implement its strategic plan. Table 1 below is the summary of Programme Performance Indicators for the 2023/24 financial year.

**Table 1: Summary of DSI Programme Performance Indicators for the 2023/24 financial year**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Programme** | **No. of indicators per programme** | **Annual Targets** | **Quarterly Targets** | **Bi-Annual Targets** | **Biennially/**  **Targets** |
| 1. Administration | 7 | 2 | 3 | 2 | - |
| 1. Technology Innovation | 18 | 11 | 4 | 3 | - |
| 1. International cooperation and resources | 9 | - | 9 | - | - |
| 1. Research, Development, and Support | 17 | 2 | 11 | 4 | - |
| 1. Socioeconomic Innovation Partnerships | 22 | 1 | 16 | 5 | - |
| **Total distribution** | **73** | **16** | **43** | **14** | **-** |
| **Percentage distribution** | **100%** | **22%** | **59%** | **19%** | **0%** |

The table above presents a summary of indicators per programme for the DSI. The DSI has a total of 73 indicators; distributed as follows: 16/73 indicators have annual targets (i.e., 22 per cent); 43/73 indicators have quarterly targets (59 per cent); 14/73 indicators have biannual targets (19 per cent); and 0/73 indicators have biennial targets (0 per cent). The purpose and components per programme as noted in the 2023/34 APP are presented next.

**3. Budget of the Department**

**3.1. Programmes Allocations over the 2023 MTEF**

The table below reflects the budget allocation for 2023/24 and over the medium term.

**Table 2: Summary of the overall Budget allocation and medium-term estimates 2022/23 – 2025/26**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **R million** | | **2022/23** | **2023/24** | **2024/25** | **2025/26** |
| **Total** | **Total** | **Total** | **Total** |
|  | |  |  |  |  |
| **MTEF allocation** | |  | | | |
| 1. Administration | Purpose: To provide strategic policy and planning alignment; ensure effective governance, risk management, and monitoring and evaluation (M&E) within the DSI and among entities; and provide strategic science communication and branding of the activities of the DSI, its entities and the NSI. | 352,0 | 344,0 | 359,3 | 375,2 |
| 1. Technology Innovation | Purpose: To promote technology development and the protection and utilisation of publicly funded IP for innovation with socio-economic impact. | 1 907,0 | 2 568,4 | 2 307,8 | 1 957,7 |
| 1. International cooperation and resources | Purpose: To develop, promote and manage international partnerships that strengthen the NSI and enable the exchange of knowledge, capacity, innovation and resources between South Africa and its international partners, particularly in Africa, in support of South African foreign policy through science, knowledge and innovation diplomacy. | 149,4 | 149,9 | 156,5 | 163,5 |
| 1. Research, Development, and Support | Purpose: To provide an enabling environment for research and knowledge production that promotes the strategic  development of basic sciences and priority science areas, through science promotion, human capital development,  and the provision of research infrastructure and relevant research support, in pursuit of South Africa’s transition to a knowledge economy. | 4 979,1 | 6 046,0 | 5 854,5 | 5 680,5 |
| 1. Socioeconomic Innovation Partnerships | Purpose: To enhance the growth and development priorities of government through targeted STI-based interventions  and the development of strategic partnerships with other government departments, industries, research institutions and communities, as well as the provision of statistics and analyses for system-level monitoring and evaluation. | 1 757,6 | 1 765,9 | 1 845,3 | 1 927,9 |
| **Total expenditure estimates** | | **9 145,2** | **10 874,2** | **10 523,7** | **10 105,0** |

*Source: National Treasury ENE (2023)*

Table 2 shows an overview of the 2023/24 Budget and Medium-Term Expenditure Framework (MTEF) Estimates. The department’s expenditure is expected to increase at an average annual rate of 3.4 per cent, from R9.1 billion in 2022/23 to R10.1 billion in 2025/26. Transfers and subsidies account for an estimated 94 per cent (R29.7 billion) of total expenditure over the MTEF period. The second‐largest cost driver is compensation of employees, spending on which increases from R357.7 million in 2022/23 to R403.8 million in 2025/26 at an average annual rate of 4.1 per cent.

**3.2. Economic Classifications Allocations over the 2023 MTEF**

**Table 3: Budget Estimates under Economic Classification**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Economic Classification** | **Budget** | | **Nominal Rand change** | **Real Rand change** | **Nominal per cent change** | **Real per cent change** |
| **R million** | **2022/23** | **2023/24** | **2022/23 – 2023/24** | | **2022/23 – 2023/24** | |
| Compensation of Employees | 357,6 | 370,5 | 12,9 | - 4,4 | 3,61 per cent | -1,23 per cent |
| Goods and Services | 222,2 | 207,4 | - 14,8 | - 24,5 | -6,66 per cent | -11,02 per cent |
| Transfers and subsidies | 8 554,1 | 10 285,8 | 1 731,7 | 1 251,2 | 20,24 per cent | 14,63 per cent |
| Payments for capital assets | 11,2 | 10,4 | - 0,8 | - 1,3 | -7,14 per cent | -11,48 per cent |
| Payments for financial assets | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 9 145,1 | 10 874,1 | 1 729,0 | 1 221,1 | 18,91 per cent | 13,35 per cent |

Table 3 shows the Departments overall budget allocation per economic classification. The 2023/24 budget increases in Transfers and Subsidies at approximately 14.6 per cent above inflation. There highest reduction in budget is under Goods and Services with reduction from R222.2 million to R207.4 million. Payments of capital assets decreased from R11.2 million to R10.4 million.

**4. Budgetary allocations per programme**

**4.1. Programme 1: Administration**

This programme plays an important role in giving effect to first priority of the NDP, that is, to build a capable, ethical and developmental state. This priority is also expressed in the MTSF for the five-year term 2019-2024, as a crucial mode that is required to achieve Vision 2030. This includes capacity-building programmes for the financial year 2023/24 that will target officials who have identified training programmes for their professional development as well as officials who have identified programmes to assist them in addressing skills needs and competencies required to deliver the outcomes of the Department.

**Table 4: Programme 1 Budget Allocation 2022/23 – 2023/24.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sub-programme** | **Budget** | | **Nominal Rand change** | **Real Rand change** | **Nominal per cent change** | **Real per cent change** |
| R million | **2022/23** | **2023/24** | **2022/23 – 2023/24** | | **2022/23 – 2023/24** | |
| 1. Ministry | 5,8 | 5,7 | - 0,1 | - 0,4 | -1,72 per cent | -6,31 per cent |
| 2. Institutional Planning and Support | 162,7 | 169,5 | 6,8 | - 1,1 | 4,18 per cent | -0,69 per cent |
| 3. Corporate Services | 177,8 | 163,1 | - 14,7 | - 22,3 | -8,27 per cent | -12,55 per cent |
| 4. Office Accommodation | 5,7 | 5,7 | 0,0 | - 0,3 | 0,00 per cent | -4,67 per cent |
| **TOTAL** | 352,0 | 344,0 | - 8,0 | - 24,1 | -2,27 per cent | -6,84 per cent |

Table 4 shows the budget allocation in programme one. There is an overall decrease in the budget from R352 million in 2022/23 to R344 million in 2023/24, which is a nominal decrease of 2.2 per cent and a 6.8 per cent decrease when inflation adjusted. Majority of the budget allocation in the programme was to sub-programme two of Institutional planning and support, which received R169.5 million. The highest decrease in budget was in subprogramme three of Corporate Services, decreasing from R177.8 million to R163.1 million.

**4.2. Programme 2:** **Technology Innovation**

Programme Objectives:

* Facilitate and make strategic investments in space science and technology, energy, the bioeconomy, nanotechnology, robotics, photonics, indigenous knowledge systems, intellectual property management, technology transfer and technology commercialisation over the medium term by:
* Funding and/or maintaining 60 instruments to support the use of knowledge.
* generating 366 knowledge products (including published peer‐reviewed scientific articles and the filing of applications for, or the registration or granting of, intellectual property rights)
* developing and approving 14 science, technology, and innovation strategic policy directives to enhance understanding and analyses that support the implementation of relevant interventions.
* developing and/or maintaining 12 decision support interventions to improve the delivery of government services or functions.

**Table 5: Programme 2 Budget Allocation 2022/23 – 2023/24.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sub-programme** | **Budget** | | **Nominal Rand change** | **Real Rand change** | **Nominal per cent change** | **Real per cent change** |
| R million | **2022/23** | **2023/24** | **2022/23 – 2023/24** | | **2022/23 – 2023/24** | |
| 1. Space Science | 286,0 | 986,5 | 700,5 | 654,4 | 244,93 per cent | 228,82 per cent |
| 1. Hydrogen and Energy | 253,4 | 198,0 | - 55,4 | - 64,6 | -21,86 per cent | -25,51 per cent |
| 1. Bio‐innovation | 248,9 | 210,3 | - 38,6 | - 48,4 | -15,51 per cent | -19,45 per cent |
| 1. Innovation Priorities and Instruments | 1 058,6 | 1 112,4 | 53,8 | 1,8 | 5,08 per cent | 0,17 per cent |
| 1. National Intellectual Property Management Office | 56,3 | 56,3 | 0,0 | - 2,6 | 0,00 per cent | -4,67 per cent |
| 1. Office of the Deputy Director‐General:   Technology Innovation | 3,9 | 4,9 | 1,0 | 0,8 | 25,64 per cent | 19,77 per cent |
| **TOTAL** | 1 907,1 | 2 568,4 | 661,3 | 541,3 | 34,68 per cent | 28,38 per cent |

Table 5 shows the budget allocation for programme two. There is an overall increase in the budget from R1.9 billion in 2022/23 to R2.56 billion in 2023/24, which is a nominal increase of 34.6 per cent and 28.4 per cent when inflation adjusted. The main contributor to the significant increase in the overall budget is from sub-programme one of space science which had an increase from R286 million to 986.5 million (228 per cent real increase). Subprogramme one of Space Science supports the creation of an environment conducive to the implementation of the national space strategy and the South African Earth observation strategy, and one that addresses the development of innovative applications and human capital to respond to national priorities and support socioeconomic development.

**4.3. Programme 3: International Cooperation and Resources**

Programme Objectives:

* Maximise South Africa’s strategic interests in science, technology and innovation through international cooperation and promote a transformed, inclusive, responsive and coherent national system of innovation by leveraging resources through 129 projects with donor funders by March 2025.
* Develop human capabilities and skills for the economy by securing opportunities for 1 270 South African students to participate in international programmes over the medium term.
* Use knowledge for economic development in revitalising existing industries and stimulating research and development‐led industrials by supporting 51 initiatives targeting the objectives of Agenda 63 and 51 initiatives focused on the Southern African Development Community’s regional indicative strategic development plan by March 2025.
* Support innovation within a capable state by engaging with 36 science, technology, and innovation leaders in multilateral forums by March 2025.

**Table 6: Programme 3 Budget Allocation 2022/23 – 2023/24.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sub-programme** | **Budget** | | **Nominal Rand change** | **Real Rand change** | **Nominal per cent change** | **Real per cent change** |
| R million | **2022/23** | **2023/24** | **2022/23 – 2023/24** | | **2022/23 – 2023/24** | |
| 1. Multilateral Cooperation and Africa | 33,4 | 33,1 | - 0,3 | - 1,8 | -0,90 per cent | -5,53 per cent |
| 1. International Resources | 69,0 | 68,9 | - 0,1 | - 3,3 | -0,14 per cent | -4,81 per cent |
| 1. Overseas Bilateral Cooperation | 44,3 | 42,7 | - 1,6 | - 3,6 | -3,61 per cent | -8,11 per cent |
| 1. Office of the Deputy Director‐General: International Cooperation and Resources | 2,8 | 5,1 | 2,3 | 2,1 | 82,14 per cent | 73,63 per cent |
| **TOTAL** | 149,5 | 149,8 | 0,3 | - 6,7 | 0,20 per cent | -4,48 per cent |

Table 6 shows the budget allocation for programme three. There is an no change in the overall budget allocation from 2022/23 to 2023/24, reflecting a decrease in spending power when inflation is factored in. Majority of the budget in the programme is allocated to sub-programme two of International Resources a total of R68.9 million, which is no difference from the previous financial year.

**4.4. Programme 4:** **Research, Development and Support**

Programme objectives:

* Contribute to the development of representative, high‐level human capital that can pursue locally relevant, globally competitive research and innovation activities over the medium term by:
* awarding 9 600 bursaries to doctoral students
* awarding 12 000 bursaries to pipeline postgraduate (BTech, honours and masters) students.
* placing 2 250 graduates and students in department‐funded work preparation programmes in science, engineering and technology institutions.
* Contribute to a transformed, inclusive, responsive and coherent national system of innovation by:
* maintaining the number of research infrastructure grants at 30 over the medium term
* increasing the total available broadband capacity provided by the South African National Research Network from 6 500 Gbps in 2023/24 to 7 100 Gbps in 2025/26.
* Increase knowledge generation and innovation output by:
* maintaining the total number of researchers awarded grants through programmes managed by the National Research Foundation at more than 10 500 over the medium-term.
* maintaining the number of research articles published by researchers funded by the National Research Foundation and cited in the Web of Science database at more than 23 400 over the medium-term.
* completing the production of the L‐band receivers for the additional MeerKAT antennae by 2023/24 and installing the receivers by 2024/25.
* installing 4 MeerKAT extension antennae by 2023/24 and 9 MeerKAT extension antennae by 2024/25, and fully commissioning and integrating 13 MeerKAT antennae with the 64‐dish MeerKAT telescope by 2025/26
* conducting 45 initiatives promoting public awareness of and engagement with science over the medium term.
* publishing the South African public relationship with science survey report by 2023/24 and conducting a country comparison study by 2025/26.

**Table 7: Programme 4 Budget Allocation 2022/23 – 2023/24.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sub-programme** | **Budget** | | **Nominal Rand change** | **Real Rand change** | **Nominal per cent change** | **Real per cent change** |
| R million | **2022/23** | **2023/24** | **2022/23 – 2023/24** | | **2022/23 – 2023/24** | |
| 1. Human Capital and Science Promotions | 2 756,2 | 2 780,4 | 24,2 | - 105,7 | 0,88 per cent | -3,83 per cent |
| 1. Science Missions | 112,6 | 257,0 | 144,4 | 132,4 | 128,24 per cent | 117,58 per cent |
| 1. Basic Science and Infrastructure | 958,8 | 1 241,5 | 282,7 | 224,7 | 29,48 per cent | 23,44 per cent |
| 1. Astronomy | 1 147,4 | 1 763,1 | 615,7 | 533,3 | 53,66 per cent | 46,48 per cent |
| 1. Office of the Deputy Director‐   General: Research, Development  and Support | 4,1 | 4,1 | 0,0 | - 0,2 | 0,00 per cent | -4,67 per cent |
| **TOTAL** | **4 979,1** | **6 046,1** | **1 067,0** | **784,6** | **21,43 per cent** | **15,76 per cent** |

Table 7 shows the budget allocation for programme four. There is an overall increase in the budget from R4.98 billion in 2022/23 to R6 billion in 2023/24, reflecting a nominal increase of 21.4 per cent or 15.7 per cent when inflation adjusted. Most of the budget in this programme is to sub-programme one of Human Capital and Science Promotions receiving an allocation of R2.78 billion in 2023/24. Human Capital and Science Promotions formulates and implements policies and strategies that address the availability of human capital for science, technology and innovation; provides fundamental support for research activities; and contributes to the development of a society that is scientifically literate and knowledgeable about science. Subprogrammes two, three, and four were allocated budgets that are significantly above inflation, with subprogramme two of space missions receiving a 117.6 real increase in budget.

**4.5. Programme 5: Socioeconomic Innovation Partnerships**

Programme Objectives:

* Inform and influence how science and technology can be used to achieve inclusive development through knowledge, evidence and learning over the medium term by:
* publishing 30 knowledge products on innovation for inclusive development
* maintaining and improving 14 decision support systems generating 46 learning interventions.
* Identify, grow and sustain niche, high‐potential science, technology and innovation capabilities for sustainable development and the greening of society and the economy by fully funding and co‐funding 384 honours, masters and doctoral students, and adding 30 knowledge and innovation products to the intellectual property portfolio over the medium term.
* Identify, grow and sustain niche, high‐potential science, technology and innovation capabilities that improve the competitiveness of existing industries with growth potential in aerospace, advanced manufacturing, chemicals, advanced metals, mining, ICT and sector innovation funds; and facilitate the development of new targeted industries led by research and development over the medium term by:
* fully funding or co‐funding 1 465 masters and doctoral students, and 600 interns
* adding 145 knowledge and innovation products to South Africa’s intellectual property portfolio funding 15 instruments in support of increased localisation, competitiveness and industrial development led by research and development.
* Introduce and manage interventions and incentive programmes that increase the level of private‐sector investment in scientific or technological research and development by providing pre‐approval decisions within 90 days of the date of receipt of applications for the research and development tax incentive on an ongoing basis.

**Table 8: Programme 5 Budget Allocation 2022/23 – 2023/24.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sub-programme** | **Budget** | | **Nominal Rand change** | **Real Rand change** | **Nominal per cent change** | **Real per cent change** |
| R million | **2022/23** | **2023/24** | **2022/23 – 2023/24** | | **2022/23 – 2023/24** | |
| 1. Sector Innovation and Green Economy | 1 092,3 | 1 096,0 | 3,7 | - 47,5 | 0,34 per cent | -4,35 per cent |
| 1. Innovation for Inclusive   Development | 381,7 | 384,7 | 3,0 | - 15,0 | 0,79 per cent | -3,92 per cent |
| 1. Science and Technology Investment | 25,4 | 25,3 | - 0,1 | - 1,3 | -0,39 per cent | -5,05 per cent |
| 1. Technology Localisation,   Beneficiation and Advanced  Manufacturing | 256,1 | 256,4 | 0,3 | - 11,7 | 0,12 per cent | -4,56 per cent |
| 1. Office of the Deputy Director‐   General: Socioeconomic Innovation  Partnership | 2,2 | 3,4 | 1,2 | 1,0 | 54,55 per cent | 47,33 per cent |
| **TOTAL** | 1 757,7 | 1 765,8 | 8,1 | - 74,4 | 0,46 per cent | -4,23 per cent |

Table 8 shows the budget allocation for programme five. There is an overall slight increase of R8.1 million in the budget from R1.75 billion in 2022/23 to R1.76 billion in 2023/24, which is a nominal increase of 0.4 per cent, but a 4.2 per cent decrease when inflation adjusted. Majority of the budget in 2023/24 is allocated to sub-programme one of Sector innovation and Green Economy which was allocated R1.09 billion, showing is a real decrease of 4.4 per cent from the previous year. The budget allocation is below inflation in all sub-programmes except sub-programme five. This shows that the department will have less spending power than the previous year in this sub programme.

**6. Transfers to Entities**

**Table 10: Transfers to the DHET Entities 2022/23 – 2023/24**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sub-programme** | **Budget** | | **Nominal Rand change** | **Real Rand change** | **Nominal per cent change** | **Real per cent change** |
| R million | **2022/23** | **2023/24** | **2022/23 – 2023/24** | | **2022/23 – 2023/24** | |
| 1. Academy of Performance South Africa | 35,5 | 35,6 | 0,1 | - 1,6 | 0,28 per cent | -4,40 per cent |
| 1. Council for Scientific and Industrial Research | 3 089,9 | 3 385,7 | 295,8 | 137,7 | 9,57 per cent | 4,45 per cent |
| 1. Human Sciences Research Council | 833,9 | 570,8 | - 263,1 | - 289,8 | -31,55 per cent | -34,75 per cent |
| 1. National Research Foundation | 4 300,2 | 4 871,7 | 571,5 | 343,9 | 13,29 per cent | 8,00 per cent |
| **TOTAL** | 8 259,5 | 8 863,8 | 604,3 | 190,3 | 7,32 per cent | 2,30 per cent |

Table 10 shows the budget to the Departmental entities. The table shows a significant reduction in the budget of the Human Sciences research council (HSRC), dropping from R833.9 million in 2022/23 to R570.8 million in 2023/24, reflecting a decrease of 34.8 per cent in real terms. This shows a significant reduction on spending power for the entity. The entity with the highest increase in budget is to National Research Foundation (NRF) with an allocation of R4.87 billion in 2023/24, or 8 per cent real increase.

**8. Committee Deliberations on DSI APP and Budget**

**8.1. Committee Observations on National Department of Science and Innovation (DSI)**

The Committee, having considered and deliberated on the Annual Performance Plans 2023/24 of the Department of Science and Innovation made the following key observations and requests:

* For the DSI to provide an update on the challenges and progress made whilst working alongside the Department of Tourism and the Northern Cape Provincial Government; What were the details of the appointed service providers in terms of expectations and responsibilities, and why could such not be fulfilled by one of the public partners; the DSI to highlight an oversight method linked to the mentioned National Astro-tourism Strategy, and to say how the Committee could assist the DSI to achieve its intended outcomes. If the Department could elaborate on the identified gaps in the DSI legislation and policy which were the potential cause for the underfunding; the DSI to clarify who the ‘large private sector funded’ was; the DSI to list the potential risk factors which might cause the country to lose the mentioned advantages provided for by the Northern Cape; and the Department to highlight an oversight needed for the geographical advantage which the Committee might assist in achieving the intended outcome.
* How the Department was improving the spatial footprint of innovation to address rural and township exclusion; How were the public entities (which fell under the DSI) assisting in improving the spatial footprint of innovation to address rural and township exclusion; how the DSI was ensuring that the public understood and appreciated the work done in the previous financial year by highlighting achievement in each province; if the DSI could elaborate on the work done in the first month of 2023/2024 link in the National Science Engagement co-ordinating role; if the DSI could elaborate on its partnership with the South African Agency for Science and Technology Advancement (SAASTA) and non-traditional National System of Innovation (NSI) players. The committee also requested the DSI to elaborate on the successes and challenges experienced when monitoring those entities during the experimental training. Related to the recent outbreak of Cholera, how was the Department intervening to lessen the impact of Cholera in different communities such as Tshwane.
* The plans to roll out infrastructure and connectivity to rural areas. In the Northern Cape, which was mostly rural and had vast open lands, there was a huge problem with reaching the police or the ambulance due to lack of connectivity (loadshedding), and that created a lot of issues for those communities. What was the DSI doing to mitigate that? What partnerships did it have with the South African Police Services (SAPS) and the Health Department which could aid in such situations.
* The impact of the global pandemic on African medicine practitioners and their participation. Could the DSI share what was concluded in that regard. Were those practitioners adding any value to research on epidemiology? When and how had the DSI been involving the said practitioners?

**9. Response by DSI**

The Department of science and innovation, in response to the committees’ observations, responded as follows:

* In response to the Astro-tourism strategy, the Department reported that this was a joint project between DSI and the Department of Tourism. It required a lot of data and information of potential services which were needed to identify the potential facilities which could be used for the project. The DSI would be willing to provide information on the costs, etc., that was valuable. The intention of the strategy was to use the facilities in the Northern Cape region, and other tourist regions in the country. That strategy was a medium-long term strategy. The DSI thought about how to make the country more attractive to tourists and was willing to provide more feedback on that. It identified investments which it made strategies on. He said he had to engage a lot with local role-players.
* Regarding the question around risk, the Department reported that there was the passing of legislation which protected the astronomy areas as geographic advantage areas. There were procedures which had to be followed with the Act. Mining, cell phone reception, all impacted the astronomy geographic advantage areas, but measures had been put in place there to mitigate that. The entity was adopting a very developmental approach to the challenges. It was working with other role-players on its risk register.
* Regarding SAASTA, the entity made a major amendment last year to an Act to empower the SAASTA to play a larger role in terms of science engagement. The SAASTA was building capacity to do science engagement; that area was very important. The entity had the National Science Week, there were science centres, and the entity had traditional and non-traditional partners. Non-Governmental Organisations (NGOs) were set up by young people who were going out to mentor other young people. The DSI put out a call asking where it could assist with providing funding support to assist with materials for workshops. In the upcoming years, the DSI would enhance its budget for science engagement to assist various persons. It wanted to accelerate the implementation of science engagement across all types of sectors.
* On building capability for African traditional medicine, enablers were required. An active indigenous knowledge systems programme ensured the protection of indigenous knowledge(s). They were also engaging in training with the African medical practitioners, which was a vital principle of democracy, to give credence to prior learning. Many efforts were made to ensure that the DSI reached out to all nine provinces regarding spatial footprints. It had initiatives such as the M-LAB facilities in the Northern Cape and Gauteng. It had recently set up ‘living labs’ which were in close contact with local players; those were spaces where young people could go in and try new technologies. There were research agencies which the DSI had which were community-based projects. That was all to ensure that science and technology reached as far as possible. Colleagues in Project 5 were working on a database system which would allow the Committee to get a picture of what existed, that was being developed in the current year.
* Regarding the critical skills of TVET graduates, the DSI did not focus on general skills but on the areas which were defined as crucial skills and had identified capabilities through its internship programmes. An example was hydrogen in the fuel cell space. The entity had been deepening its partnership with higher education to be able to enhance its skills.
* It was reported that the DSI needed to develop the Astro-strategy based on scientific astronomy facilities in the country, such as the big telescope in Sutherland. The International Council intended to increase the satellite dishes in the next seven or eight years, to increase them to about 100 dishes. The DSI wondered if it could take advantage of posting such facilities to link tourists who visit the country without interfering with the research being done.
* The concept was like that of Maboneng and Krugersdorp, where people were permitted to visit the sites with fossils. The DSI approached the Department of Tourism and the provincial government who both agreed that that would be a good idea. A consultant was then appointed who advised how to proceed, including the benchmark costs. A proposition was made to establish a science visitors’ centre, which was complete, and funds were being raised.
* Regarding the NSI underfunding, each year, a research and development study survey was conducted on how much money was spent by the universities. And the said studies have shown a decline in investment in the private sector’s contribution since the global pandemic. The DSI was trying to develop a strategy on how to re-engage the private sector, there was progress made in that regard. The DSI was concerned for the large companies that did not do research. The entity was hopeful of getting more private sector funding. It was successful in working with the private sector companies (and he proceeded to list said companies). There was investment in the private sector, but not enough, unfortunately. They also encouraged the government to continue with research and development tax incentives.
* Regarding the improvement of spatial footprint in rural areas, there were two main programmes over and above what was already mentioned. The DSI had a range of technology stations located in almost every province. It tried to create awareness for grassroots innovators and worked closely with municipalities to innovate within the provinces and municipal levels. The DSI was doing nothing regarding Cholera because it would only do research if there was an unknown strain of Cholera for which the treatment did not exist. The entity did not think it was necessary to intervene in the challenges.
* The DSI was not under the mandate to roll out broadband for society in general, only for post-school education and training institutions. Institutions needed broadband to do work. The DSI was, however, working with the Department of Communication and Digital Technologies on how they could contribute to universal access to broadband. The communication satellite would enable communication anywhere, provided a device to pick up the signal. This would be vital in cases of emergencies.
* In response to the impact of the global pandemic on African medicine practitioners and their participation, the DSI had an indigenous knowledge system strategy which tried to develop indigenous knowledge as a knowledge system. The DSI was working with traditional leaders and houses to help identify knowledge holders in all provinces. Those who contributed to the knowledge creation would be respectively accredited for their contribution. At various universities, Bachelors' degrees were developed, and traditional African Medicines institutes were developed. Here they showcased knowledge and tried to look at ingredients responsible for treatment. During the global pandemic, the DSI reached out to the communities of traditional leaders’ knowledge holders and asked if any had ideas on how to treat the disease. Several came forward with their ideas. The DSI escalated those ideas for approval. The DSI was close to taking it to market. The Council for Scientific and Industrial Research (CSIR) was supported through the biomanufacturing industry development centre.

**10. Committee recommendations**

Upon Deliberations with DSI, the committee provided the following recommendations to be actioned by the Department:

* The Department is to submit a comprehensive detailed document explaining the Astro-tourism project between DSI and the Department of Tourism to the committee by the end of July 2023.

**11. Conclusion**

Having satisfied itself in its engagement with the Department of Science and Innovation on their Annual Performance Plan and Budget, the Select Committee on Education and Technology, Sports, Arts and Culture recommends that Budget Vote 35: Science and Innovation be adopted and that the House approves Budget.

**Report to be considered**.