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| MEMORANDUM FROM THE PARLIAMENTARY OFFICE |

**NATIONAL ASSEMBLY**

**FOR WRITTEN REPLY**

**QUESTION 1452**

**DATE OF PUBLICATION OF INTERNAL QUESTION PAPER: 05/05/2023**

**INTERNAL QUESTION PAPER NO 15 OF 2023**

**Mr T Mogale (EFF) to ask the Minister of Higher Education, Science and Innovation:**

Considering that in numerous presentations by his department it was cited that the Square Kilometre Array (SKA) project will bring about skills development and employment opportunities to the Republic, (a) what total number of job opportunities are prospectively planned for the eventual roll-out of the SKA project, (b) what kind of skills will be developed in the process and during the roll-out of the SKA project, (c) by what date does he envisage the specified aspirations will be realised and (d) how will the SKA project impact the youth in townships and rural areas?

**NW1680E**

**REPLY:**

1. The basis for determining the number of job opportunities that will arise from the deployment and operation of the SKA project is guided by analysis that was done on the job opportunities[[1]](#footnote-1) that were created through the establishment and operation of the South African MeerKAT telescope – a precursor to the SKA telescope. An independent economic modelling exercise indicated that the MeerKAT construction program for the period 2012 to 2022 and the operational phase since 2018 has created 5 606 direct job opportunities. The model that was used to calculate the job opportunities created through MeerKAT was applied to the construction and construction and operation of the SKA telescope over the next 10 years. With the funding that is likely to flow to South Africa, it is estimated that a further 16 475 job opportunities will be created. This number will continuously be reviewed to always ensure the best available data. In addition, appropriate monitoring has been put in place to enable reporting of direct job opportunities that will flow from SKA construction, due to commence this year.
2. The scope of skills development is broad and is further supported by strategic skills development interventions undertaken through the Human Capital Development (HCD) Bursary Programme of the South African Radio Astronomy Observatory (SARAO). At a national level, the design and construction of the SKA will enhance the development of skills in data science; compute and big data storage technologies; electronic engineering; radio frequency engineering; software development; project management and systems engineering. These skills are extremely relevant in the 4th industrial revolution and are easily transferred as we witnessed when SARAO was appointed to coordinate the National Ventilator Project in response to the COVID-19 pandemic. Additional skills development interventions undertaken within the Karoo ensure that these communities are able to participate meaningfully in the construction and operation of the SKA. This includes business development skills for local SMME’s, as well as artisan training (such as the training of electricians), which has catalysed the development of an Artisan Training Centre in Carnarvon.
3. Projections on job opportunities are based on a ten-year horizon, starting in 2023. However, skills development across the skills identified above has been ongoing since the commencement of the MeerKAT project.
4. Establishment of the SKA project in the Karoo provides a range of opportunities for the development of youth in rural communities surrounding the telescope. Already, learners are being supported through several interventions at schools, including science engagement; robotics programs; maths and science educator support; and school holiday programs. Learners who pass grade 12 and qualify to study a science or engineering related degree at university are granted bursaries by SARAO – so far, 34 learners from the local community have been awarded bursaries. A further 72 have been supported to study at TVET colleges. Following the development of the Astro-Tourism Strategy, SARAO is piloting a program to train youth in the Karoo as Astro-tourism guides – with the intention of exploiting potential Astro-tourism opportunities in the future. This will be enhanced through the establishment of the SKA Science Tourism Visitor Centre and this project is currently going through the detailed engineering design phase. SARAO participates in various outreach programs that are organised by the Department of Science and Innovation and its entities for the youth from the townships.
1. 1 job opportunity = 1 full time equivalent (FTE) year [↑](#footnote-ref-1)