

VICE-CHANCELLOR'S SCIENCE DAY NOTES: 30 JULY 2024

Protocol List:

Honourable Madoda Sambatha, MEC for the Department of Agriculture, Land Reform and Rural Development in North West Province;

University and Senior Management members;

HoD of the North West Province Department of Agriculture, Land Reform and Rural Development, Rre Thupi Mokgatla, and his team;

Magosi a Rona, Kgosi Kgolo Tshepo Frederick Mankuroane, and other headmen of all 13 villages;

Executive Mayor of the Greater Taung Local Municipality, Cllr Tumisang Gaoraelwe;

Acting Director-General from the Department of Science and Innovation, Mr. Daan Du Toit and Colleagues;

Ms. Mamorena Lehoko, Chief Director of Corporate Services in the North West Province Department of Cooperative Governance and Traditional Affairs (COGTA);

Ms. M.P. Mokhutle, Chief Director for District Coordination, Department of Basic Education; School Principal of MM Sebitloane Special School, Ms. Boitumelo Gloria Mmokwa, and her team;

Members of the Executive and their support from all our industry partners;

NWU staff, exhibitors, technical team, educators;

Community members, and most importantly, all our learners.

Dumelang bagaetsho,

We are here this morning to celebrate National Science Week 2024 under the theme "Living in a High-Tech World: Should We Be Concerned?", although it is postponed and to mark our second Vice-Chancellor's Science Day at North-West University. Today, we reflect on and celebrate the achievements of outstanding individuals such as Dr. Nolwazi Mkhize, Prof. Nox Makunga, Prof Tebello Nyokong and Prof. Thebe Medupe, to mention a few. Dr. Nolwazi Mkhize is an entomologist who has a passion for studying insects, particularly in the field of pest control in agriculture. Her curiosity led her to discover a new species of olive flea beetles, showcasing the excitement and rewards of scientific discovery. Dr. Mkhize's career path was influenced by her grandmother's love for farming, inspiring her to pursue a unique and fulfilling career in agriculture. She also serves as a role model for her daughters, encouraging them to follow their passions and dreams.

Professor Nox Makunga is a botanist whose research focuses on the biology of South African medicinal plants and their socio-economic value. Growing up in an academic environment surrounded by nature, she was inspired by her father, a botany professor, and her high school biology teacher to pursue a career in botany. Professor Makunga emphasizes the importance of reconnecting with nature and finds inspiration in remote natural landscapes, highlighting the rejuvenating power of the natural world in her research.

Professor Tebello Nyokong is a chemist renowned for her research in medicinal chemistry and nanotechnology, particularly in developing alternative treatments to chemotherapy. Despite facing challenges and stereotypes about girls in science during her high school years, Professor Nyokong persisted in pursuing her passion for chemistry and biology. Her commitment to scientific research and collaboration has earned her numerous international awards and recognition, allowing her to advocate for African science on a global stage and inspire the next generation of scientists through teaching and supervision of students.

Our very own Prof. Thebe Medupe, was born in a rural village near Mmabatho. His childhood fascination with science led him to build a telescope and explore the mysteries of the Moon's craters and mountains. Through his hard work and determination, he pursued his education in astrophysics, eventually becoming one of South Africa's first black astronomers. Thebe's research on variable stars and ethno-astronomy not only celebrates Africa's contributions to our understanding of the cosmos but also inspires young learners such as yourselves to pursue their dreams in science and technology.

Learners from the Greater Taung can also aspire to follow in the footsteps of these thinkers by pursuing careers in the sciences. I believe that, with dedication, passion and access to educational opportunities, students from any background can make a meaningful impact in the fields of astrophysics, entomology, botany, chemistry and beyond.

Reflecting on these outstanding achievements, it is important for us to acknowledge the vital role that communities and institutions played in the success of these figures I have just mentioned. North-West University (NWU) serves as a cornerstone in advancing STEM education in the North West Province and the Country at large, offering a diverse range of programmes and research opportunities. Schools in the Greater Taung, our local science centres, the agricultural college and libraries also contribute immensely, providing educational programmes, workshops and resources to inspire our young people. Government bodies and NGO initiatives further support students through scholarships, internships and mentorships,

bridging the gap between education and professional success. ***"Motswana a re 'Tsetseng ka tlase go etela kgorong,'" which means "Step by step, one reaches the summit."***

The theme for Science Week 2024, "Living in a High-Tech World: Should We Be Concerned?" invites us to consider the impact of rapid technological advancements on our daily lives and the workforce. Based on Stats SA's report of Unemployment in South Africa: A Youth Perspective, South Africa, like many countries worldwide, faces the issue of high youth unemployment. Recent statistics further show that the unemployment rate among young people (aged 15-34) is 45.5%, significantly higher than the national average of 32.9% for the first quarter of 2024. This is concerning and it calls for us to explore how STEM education and lifelong learning can address gaps in various industries, to eradicate this challenge. The inclusion of trade skills alongside STEM fields can assist with the identification of skill sets required in sectors such as commerce (including in banks), energy industry, agriculture, supply chain management and logistics to mention a few. An article published by the National Science and Technology forum titled "STEM Education: Disruptions and the future", stipulates that the demand for graduates and professionals in STEM fields is increasing daily and these critical sectors are forecasted to be amongst the largest employers for the future. Many industries and governments are relying on STEM innovations and education to produce a skilled workforce which is capable to tackle complex challenges and strengthen the advancement of technological progress. Hence we undertook this strategic initiative to come to remote areas, to encourage young people to pursue careers in the sciences. This is to ensure a robust pipeline of talent capable of leading future technological advancements and addressing global challenges such as climate change, healthcare, water quality, infrastructure development and responding to all Sustainable Development Goals.

For the learners of Greater Taung, enrolling in STEM fields is not just an opportunity; it is a vital step towards shaping a brighter future for yourselves and your communities. STEM education opens doors to careers that are in high demand and offers the potential for innovation and problem-solving that can transform our world. In a region often characterised by limited resources, such as Taung, a strong foundation in STEM can empower young people to overcome obstacles and achieve greatness by finding solutions which are relevant to the actual needs of the area. They are equipped with critical thinking skills, creativity, and resilience, which are traits essential for thriving in today's rapidly evolving job market. If learners continue to embrace STEM education, they can become pioneers in fields such as renewable energy, healthcare, technology, agriculture and more, contributing to the development and sustainability of Greater Taung and beyond. Moreover, STEM careers often

offer better job stability and higher remuneration, providing a pathway out of poverty and a means to support families and communities.

The strategic focus on agricultural development in the Greater Taung area is crucial to ensure high impact of enhanced agricultural practices on economic and social welfare. If we are to look into advanced farming equipment and resources, we can significantly increase crop yields and reduce post-harvest losses, thereby contributing to food security. The establishment of various investment interventions, can assist with the facilitation of market access which can enable local farmers to process and package produce to meet market standards. This infrastructure will not only improve the quality and competitiveness of local products but also generates employment and stimulates economic growth. It will further provide support to all categories of farmers. We are strengthening our collaboration with the Department for Agriculture, Land Reform and Rural Development including our Colleges of Agriculture. This partnership aims to enhance capacity-building in the province by aligning educational and training programmes with the specific needs of the agricultural sector.

Our Institution, through its faculties, plays an important role in this development by integrating research, education and community engagement. We remain committed to practical education and innovative solutions aimed at supporting local agricultural initiatives, ensuring that advancements in agricultural science are accessible to the community. We believe that through partnerships with government and industry, we will be able to foster sustainable agricultural practices that benefit the province and country's economy and contribute to a secure and prosperous future for all. Hence we remain dedicated to bringing education and opportunity to the people.

Let us all encourage our learners to seize these opportunities, knowing that with the right education and determination, they can change not only their own lives but also the future of our region.

In closing, let us remember that the power of evidence-based science lies not only in the laboratory but also in the hearts and minds of the young people we empower today. By transforming their lives through education and science, we create a legacy of progress and prosperity that will resonate for generations. With a concerted effort from all stakeholders present here today and those who could not make it, we can transform the landscape of education and unlock the full potential of our learners, ensuring that no dream is too big and no goal is beyond reach.

Thank you, and let us move forward hand in hand, leaving no one behind on the journey to a better and more prosperous future.