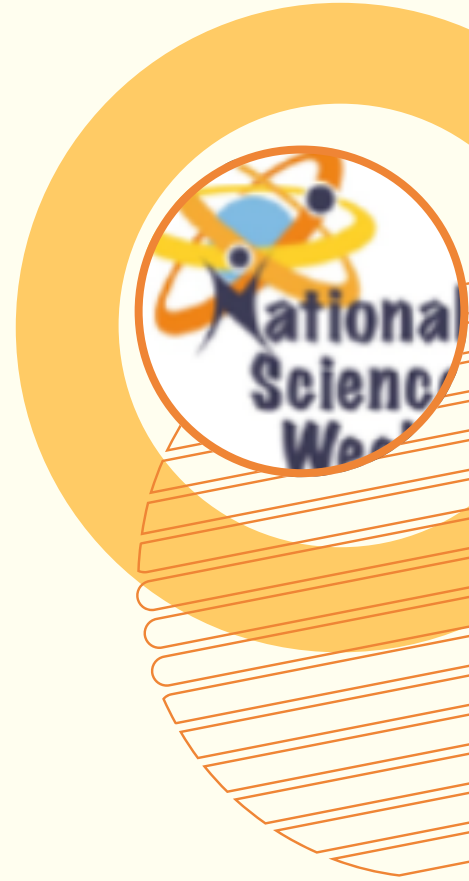


# Bakwena-Ba-Mogopa National Science Week 2024 Report

**“Living in a high-tech world: Should we be concerned?”**

Hosted by Bakwena-Ba-Mogopa  
Community Development  
Foundation  
["CDF"]



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# Introduction

Bakwena Ba Mogopa Community Development Foundation (CDF) hosted the National Science Week (NSW) programme for the very first time in Bokwena. The programme was held from 30 September to 03 October 2024 at Lerothodi Secondary School in the heart of our rural community in Bethanie; the paramount village of Bakwena-Ba-Mogopa. The event covered at least four villages that fall under Bokwena; Bethanie, Berseba, Maumong and Modikwe villages that also fall under the Rustenburg Local Municipality (RLM).

The NSW2024 event was aimed at sparking an interest in Science, Technology, Engineering, and Mathematics (STEM) among our learners. This event surpassed expectations in both participation and impact. It was an unforgettable occasion for all attendees. We owe the success of this event to the collaboration and dedication of our multiple stakeholders, especially the South African Agency for Science and Technology Advancement (SAASTA), who generously funded this initiative.

## Project Objectives:

- **Promote** Science, Technology, Engineering, Maths (STEM) education and raise awareness among Grade 8 learners in our rural communities.
- **Provide** a platform for our rural learners to participate in interactive exhibitions, workshops, and competitions that foster curiosity, creativity, and critical thinking.
- **Stimulate** the learners' interest in science, technology and their applications.
- **Expose** unemployed rural youths to the possibilities within the science and technology fields.



# Key Highlights

## Distinguished Presence of MmaKgosi: Mme Mpopi Rosalia Mamogale

We were honoured by the presence of MmaKgosi, mme Mpopi Rosalia Mamogale; the esteemed wife of the late Kgosi (Paramount Chief) Lerothodi Mamogale, after whom Lerothodi Secondary School is named. MmaKgosi led the official opening of the event. In her heartfelt address, MmaKgosi shared inspiring stories of how her late husband championed the establishment of the school with his nation of Bakwena Ba Mogopa who also contributed financially and in physically; building **the** very first Secondary School in Bokwena; **Lerothodi Secondary School in 1965**. This was done to ensure that the youth of the village had access to Secondary School education beyond Primary School. This great achievement came at the backdrop of circumventing the unfortunate prevailing situation at the time; wherein teenagers were forced to leave the villages of Bokwena to go work in farms far from the village. A phenomenon popularly known as "**go ya jara**". At the time, this was the only alternative after Primary School education. Naturally, these farms were owned by white farmers. MmaKgosi's moving speech underlined the importance of continued community-driven educational initiatives and uplifted the spirits of all present.



[MmaKgosi with one of her daughters, Rakgadi Maetsane Mamogale, with Lerothodi Secondary School Principal at the back, Mr. Nathaniel Tshenye]



[Bakwena Ba Mogopa Community Development Foundation Directors with MmaKgosi]



# Attendance and Profile of guests



The opening ceremony held on the first day of the event; **30 September** was well attended by diverse stakeholders:

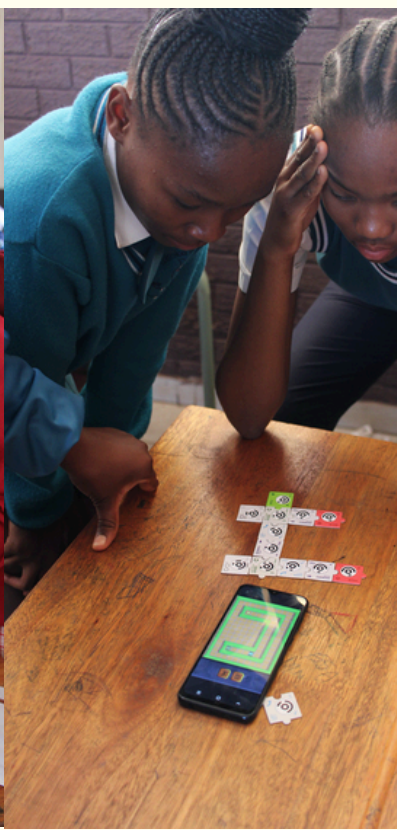
- The Royal Family accompanied Mmakgosi
- Tribal authorities (makgotla) from various villages across Bakwena Ba Mogopa were in attendance
- The Department of Basic Education in the Bojanala District Municipality were represented by the Technology Coding & Robotics Subject Advisor and the Curriculum Co-ordinator
- Representatives from School Governing Bodies of the three serving Secondary Schools (Lerothodi, Bakwena & Mojagedi) across the four villages (Bethanie, Barseba, Maumong & Modikwe), Educators and their School Principals were in attendance
- Retired community members from the engineering & technical field from Bakwena-Ba-Mogopa were also in attendance.
- Tertiary Institutions: Sol Plaatje University (Northern Cape Province)
- Grade 8 learners of the three secondary schools
- Bakwena-Ba-Mogopa Youth In Action (YIA); represented by the unemployed youths of the four villages (Bethanie, Barseba, Maumong & Modikwe)



# Interactive Learning Sessions

## Day 1-2: Introduction to Coding & Robotics & related ICT areas:

The first two days (30th September & 1st October 2024) of the event were dedicated to introduction to Coding, Robotics; targeting the Grade 8 pupils, and introduction to website development; targeting the unemployed youths. Both sessions were facilitated and led by Ms. Eva Mamabolo; ICT lecturer from Sol Plaatje University (SPU ex Northern Cape Province) assisted by her team; ICT students; Ms. Hope Mnguni and Mr. Keotshepile Modise. Collectively, their engaging and hands-on teaching approach made complex concepts simple and exciting for the learners and the unemployed youths, igniting their interest in modern technology. This interactive sessions provided the learners with invaluable skills that should open up future career possibilities in the rapidly advancing field of digital technology.



# Interactive Learning Sessions

## Day 3-4: Introduction to Space Technology (SAASTA):

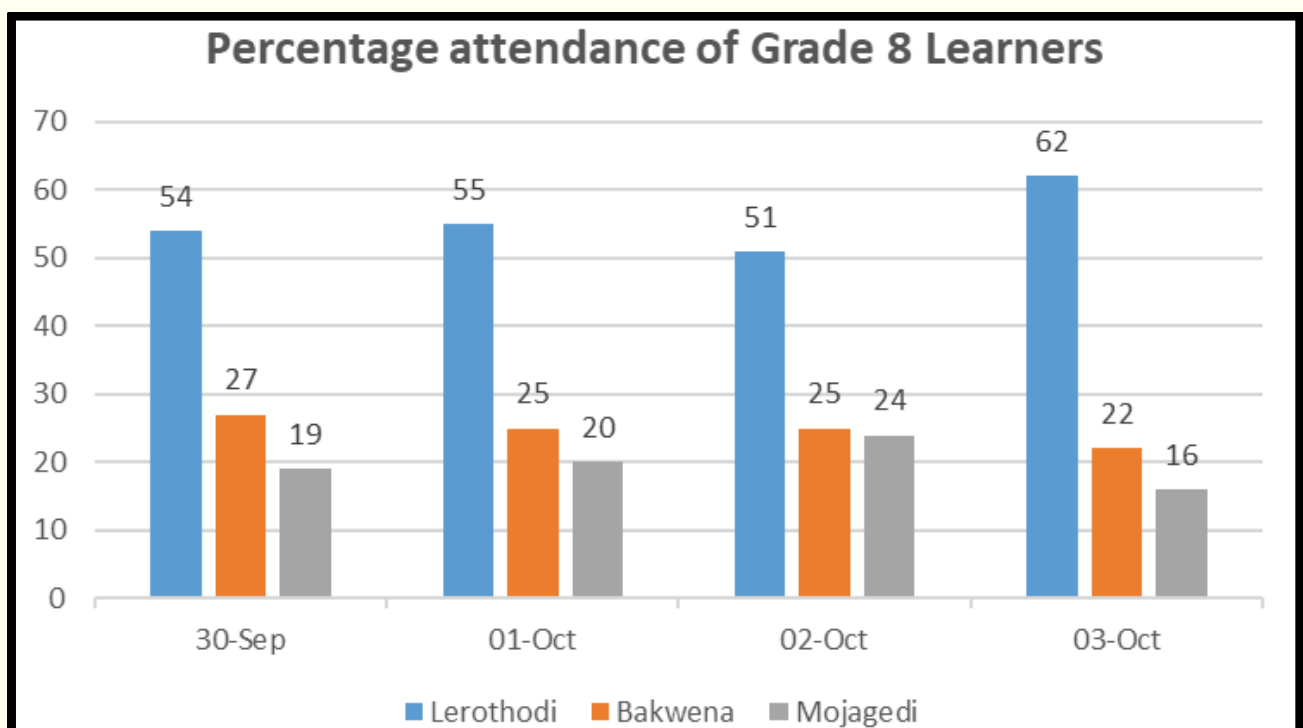
On Days 3 and 4, the focus shifted to space technology, with captivating presentations by Dr. Lerato Shikwambana from the South African National Space Agency (SANSA), who was ably assisted by Mr. Vincent Mirendzeni. Their sessions gave the learners a rare glimpse into the world of space exploration, satellite technology, and astronomy. The learners were thrilled to learn about South Africa's contributions to space science and how they, too, can aspire to careers in this fascinating field. They were able to practice locating various places of interest inclusive of; their villages, rivers and the nearby mining company. Learners were also able to put together a map of all their villages with proper descriptions and directions. The session was interactive and allowed the learners to engage meaningfully in all the activities they were involved in.



# Participation from surrounding Schools and the Youth

The event saw enthusiastic participation from Grade 8 learners from Lerothodi, Mojagedi and Bakwena Secondary Schools. These learners are mainly from Bethanie, Maumong, Barseba and Modikwe villages. In addition to the school learners, 10 youth from each village were specially invited to take part in the event. This allowed for a rich exchange of ideas between younger learners and the unemployed youth, further cementing the event's role in fostering a community-wide commitment to education and development.

The target for numbers of Grade 8 pupils was 30 per 3 secondary schools and 10 unemployed youths per 4 villages (Berseba, Modikwe, Bethanie & Maumong). The numbers of learners increased daily as the programme progressed; especially from the host venue; Lerothodi Secondary School. The overall target of 90 learners went to a whopping 109 by day 4 (03 October 2024).



# Issues & Challenges

## Challenges Encountered:

- **Regulatory Hurdles:** Reliance on SAASTA service providers (middleman) to liaise with overall logistics led to serious challenges especially transportation of learners to the venue.
- **High numbers of attendees versus targeted numbers:** High attendance of Lerothodi learners impacted on catering capability (budget implications).
- **Insufficient equipments:** Whilst SAASTA & SPU assisted with some ICT & related material for the first two days of coding, robotics & website development programmes; they were far from being sufficient for the targeted number of learners and the unemployed youth. The two day SANSA programme, was even more challenging as there was only 1 laptop for all the learners.
- **Skills gap:** Our learners struggled with basic mouse control and this was by far a serious challenge observed in assessing where they are in relation to exposure to the world of ICT. This is extremely worrisome as this is very basic.

## Resolution Steps to consider:

- **Requisite governance:** CDF to ensure registration on the CSD and Tax compliance is attended to.
- **Attendees:** Better management of numbers in collaboration with schools' management going forward.
- **Requisite Tools required:** There is a dire need for CDF to acquire requisite tools for better outcome.
- **Basic ICT skills intervention for learners:** The programme should attempt to establish the level of operation of the learners as a kick-off (skills assessment) and build from there. Additionally the programme in 2025 must consider being a full five day activities to accommodate basic computer skills for the learners.



# Support & Collaboration

## Support:

- **Government Department & Agencies:** The success of the event was made possible by the support of numerous organizations, including the Department of Basic Education (DBE), the Department of Science and Innovation (DSI), South African Agency for Science and Technology Advancement (SAASTA), South African National Space Agency (SANSA ). ESKOM exhibited as well.
- **Civil society:** Bakwena Ba Mogopa Youth in Action (YIA) were instrumental in ensuring unemployed youths from all the 4 villages are in attendance and they were very supportive in the logistical plans for the programme.
- **Schools:** The presence and engagement of School principals, Educators and School Governing Bodies from all the schools was invaluable in ensuring that the learners were fully supported throughout the programme.
- **Tribal authority:** Bakwena-Ba-Mogopa Tribal authorities from represented villages graced the opening ceremony in support of the initiative.
- **Royal Family:** The highlight of the programme was the presence of the Royal Family led by MmaKgosi who provided invaluable context to the significance of the host venue and its history; Lerothodi Secondary School.

## Collaboration:

- **SAASTA** played a key role as the main sponsor for the overall programme. SAASTA also provided non-financial support by way of tools used for the Coding & Robotics programme.
- **SANSA** provided facilitators for the space technology programme over two days, inclusive of promotional material for the learners.
- **Sol Plaatje University (SPU)** provided facilitators for the Coding, Robotics and web development & design programmes over two days. They also provided requisite tools for the programme.
- **ESKOM** took an advantage of our platform to also exhibit and provide promotional material for the learners.
- Going forward **CDF, SANSA & ESKOM** must find a way to work together, towards amplifying the efforts of **SAASTA** with financial support for a greater outcome.

*\*All participants were well taken care of, with transport, breakfast, and lunch provided daily. This allowed learners to focus entirely on the exciting learning activities without any logistical concerns.*



# Impact assessment & significance of the programme

## Promoting STEM education for rural learners:

The existing programme of coding & robotics in our schools sponsored by Glencore currently accommodates only **5** pupils per school. These schools are; Bakwena Secondary (Modikwe), Maumong Primary (Maumong) and Dimapo Primary (Bethanie). This means at least **15** pupils across our communities. Bakwena-Ba-Mogopa NSW2024 programme saw attendance in excess of **109** pupils. The reach of this initiative has far surpassed the currently existing programme in our communities.

## Youth empowerment:

The unemployed youths were exposed to ICT skills with their programme dominated by website development and design. The website development and design programme aimed at sparking interest for considering ICT solutions in a possible entrepreneurial journey. Currently, Lerothodi Secondary School has a cohort of space technology programme supported by SANSA mainly for matriculants. Our programme saw at least 40 unemployed youths attending both the website development programme facilitated by SPU and the space technology programme facilitated by SANSA.

## Social cohesion:

NSW2024, sought to put a spotlight on rural development. Additionally CDF sought to influence our communities and traditional leadership to support and encourage the youth in taking keen interest in the Science field for the benefit of future development for all. The initiative was also aimed at reminding Bakwena-Ba-Mogopa of the role of education in the development of our nation, in-line with the vision of our late paramount chief; ***Kgosikgolo Lerothodi Mamogale***; a vision that led him to initiate the building of the very first Secondary School in Bokwena in 1965; ***Lerothodi Secondary School***.

## Integrating with the broader SA:

Working with the academic world ensures wider network for the benefit of our nation, especially for our learners. Through SPU, our organisation (CDF) received a generous donation of coding game packs from Nelson Mandela Metropolitan University (EC) & Leva Foundation. The game packs will assist in the continuation of the coding & robotics programme beyond the NSW2024.

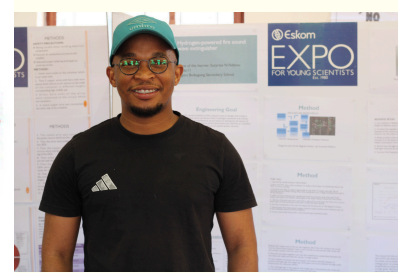


# A Vision for the Future: 2025 and Beyond

The 2024 National Science Week has left a lasting impact on all participants, from learners to educators, and has firmly established the Bakwena Ba Mogopa Community Development Foundation as a champion of STEM education in the region. As we look towards 2025, our vision is to expand the reach of the event to more Bakwena Ba Mogopa villages, increasing participation and offering even more advanced STEM learning opportunities.

Our goals for the 2025 National Science Week include:

- Expanding the science and technology workshops to include new fields such as renewable energy, artificial intelligence (AI), and environmental science.
- Inviting more institutions of higher learning, research organizations, and corporate partners to contribute expertise and resources.
- Extending the duration of the programme to allow for deeper learning and hands-on experimentations.
- Engaging with more sponsors to provide more learners with educational materials such as laptops, robotics kits, and coding software, enabling them to continue their learning journey beyond the events.



# Gratitude and Appeal for Future Support

We extend our deepest thanks to all the individuals and organizations that contributed to the success of this year's event. The collaboration between government bodies, educational institutions, corporate partners, civil society and community organizations has set a high standard for community-based educational programmes.

As we plan for the 2025 edition of National Science Week, we humbly request continued and additional sponsorship to ensure that we can further grow this initiative. Your sponsorship will directly contribute to:

- Scaling the event to reach more learners and communities.
- Providing advanced equipment and educational resources to empower our youth with cutting-edge technology & sciences skills.
- Facilitating partnerships with industry leaders and educators to bring new and innovative workshops to our learners.

We believe that by investing in our youth's education, particularly in the STEM field, we are laying the foundation for a brighter future not only for Bakwena Ba Mogopa but for South Africa as a whole. With your support, we can achieve this vision and continue to inspire the next generation of scientists, engineers, technologists and innovators.

We look forward to your continued partnership in empowering our community through education.

***PULA!!!!***

## Conclusion

- **Summary of Highlights:**
  - Significant progress made in exposing our Grade 8 learners to the world of STEM.
  - Significant progress made in exposing the unemployed youths to opportunities within the ICT space.
- **Growing networks of future collaborating partners:**
  - Opportunities created for the likes of ESKOM, SPU, NMMU, SAASTA & SANSA to reach more rural learners through this initiative should find expression in amplifying this programme going forward.

# Mojagedi Secondary School Grade 8 (2024)



Mojagedi Secondary School (Maumong) Grade 8s with their Science Teacher and SANSA Team

# Bakwena Secondary School Grade 8 (2024)



Bakwena Secondary School (Modikwe) Grade 8s with their Science Teacher and SANSA Team

# Lerothodi Secondary School Grade 8 (2024)



Lerothodi Secondary School (Bethanie) Grade 8s with their Science Teachers, Deputy Principal and the SANSA Team

## Project Team: CDF & YIA



Bakwena Ba Mogopa Community Development Foundation (CDF) & Bakwena Ba Mogopa Youth In Action (YIA) with the SANSA Team