Geoscience Council of Namibia Newsletter

1st Edition, December 2021

Promoting Professional Excellence in Geoscience for Society

Geoscience Council of Namibia

Who are we?

The Geoscience Council of Namibia (GSCN) is a juristic body established in accordance with the Geoscience Professional Act No. 3 of 2012 which came into operation on 1st September 2017. The first members of the Geoscience Council were Gazetted thereafter.

The First Councilors of GSCN

Meet the Council Members 2020-2023

Mrs Anna Nguno
President
Mapping, GIS & Remote Sensing Geologist

Mr Bertram Swartz
Vice-President
Hydrogeologist

Dr Gabi Schneider
Treasurer
Economic Geologist

Secretary/Registrar

Mrs Michelle Hailonga
Secretary
Environmental Geologist

Mrs Alina Haidula
Councillor
Petroleum Geologist

Dr Roger Swart
Councillor
Sedimentologist & Exploration Geologist

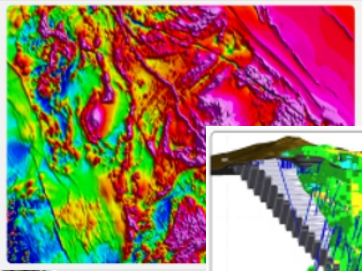
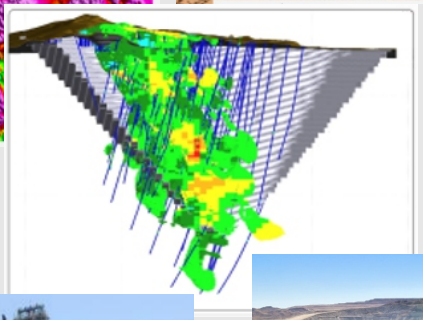
The Objectives of the GSCN are to:

- Promote the Geoscience professions in Namibia by providing a self-regulatory juristic body, registration which confirms a qualified geoscientist as having a recognised level of professional competence and subscribing to a code of professional conduct.
- Control and exercise authority in respect of all matters affecting levels of competence and codes of conduct with respect to Geoscience professions.
- Promote the interests of Geoscience as a profession in its entirety by any other means available to the Council.
- Communicate to the Minister information on matters of public interest acquired by the Council in the course of the performance of its function under the Geoscience Professions Act No.3 of 2012.

Registration of Geoscience Proffesionals

Disciplines registrable as geoscience professions:

- Regional geology
- Geophysics
- Hydrogeology
- Economic, exploration or mining geology
- Geochemistry
- Engineering geology
- Environmental geology
- Hydrocarbon geology
- Palaeontology
- Geoscience education



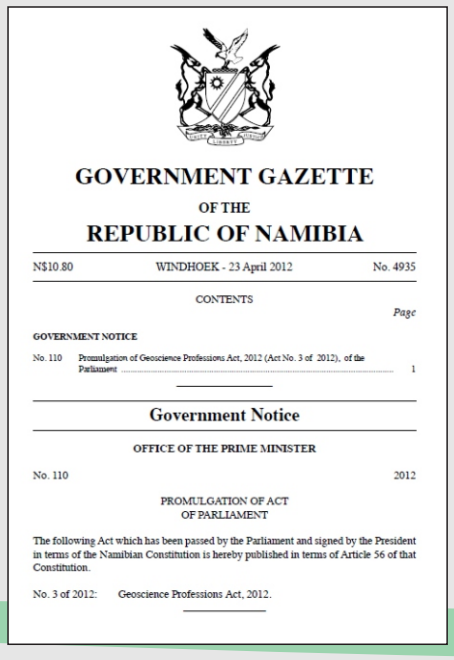
The minimum academic qualifications required for registration are:

- A four year Degree (BSc. Hons) in Geosciences;
- A three-year Bachelor (BSc or BTech in Geoscience), followed by two years of relevant work experience.

Authorised titles:

- Registered Geoscientist (“Geo.Sci.Nam.”)
- Registered Senior Geoscientist (“S.Geo.Sci.Nam.”)

Visit our website (https://geocouncil.org.na) for a database of all currently registered Geoscience professionals in Namibia.



GOVERNMENT GAZETTE

OF THE

REPUBLIC OF NAMIBIA

N$10.80 WINDHOEK - 23 April 2012 No. 4935

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GOVERNMENT NOTICE

No. 110 Promulgation of Geoscience Professions Act, 2012 (Act No. 3 of 2012), of the Parliament 1

Government Notice

OFFICE OF THE PRIME MINISTER

No. 110 2012

PROMULGATION OF ACT
OF PARLIAMENT

The following Act which has been passed by the Parliament and signed by the President in terms of the Namibian Constitution is hereby published in terms of Article 56 of that Constitution.

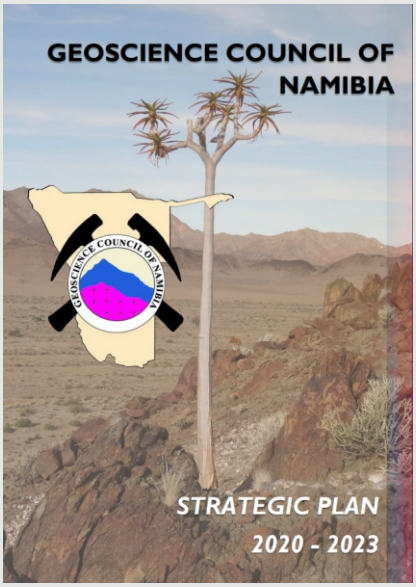
No. 3 of 2012: Geoscience Professions Act, 2012.

!! Reminder: please register/renew your membership !!

GSCN Activities 2020/2021

Guided by its mandate and role, the Council developed a Strategic Plan 2020-2023 aimed at raising awareness on the status of the Council and the role of Geosciences in Namibia.

The Council has identified three strategic themes and six focus areas to concentrate on for the next three years.



(Download: https://geocouncil.org.na/res-downloads.php)

The strategic themes are:
1) Geoscience professional excellence,
2) Advocacy and promotion, and
3) Robust governance and regulatory framework.

During November 2020, the Geoscience Council of Namibia held several status-briefing meetings with key stakeholders, where the Council presented its Strategic Plan for 2020 – 2023. The engagement with the National Council (NC) as well as, with the four (4) Ministers and/or their representatives, namely: Minister of Mines and Energy - Minister of Agriculture, Water and Land Reform - Minister of Works and Transport, and Minister of Environment, Forestry and Tourism, yielded fruitful recommendations.

The recommendations include the following:

- Geoscientists should create, publish, and disseminate geoscientific information in an easy-to-understand language.
- Ensure the use of Geosciences to unlock answers for development in the country.
- Improve collaboration, coordination and interaction amongst the stakeholders and the public at large.
- The Geoscience Council of Namibia should seriously consider market demand when advocating for certain careers in Geosciences.
- Conduct regional and national awareness outreach programs.


GSCN engagement with 4 Honorourable Ministers and/their respective representatives


GSCN with Honourable Members of the National Council

They emphasized that Geosciences is key to the much-needed development in the country, as it touches on all key areas of development. Therefore, the GSCN should put more effort to reach the public and empower them with Geoscientific knowledge; as we know many publications are always produced but the reality is that they are not read. So serious effort will have to be made to get this valuable information to the public.

In line with the Council's strategic objective, the GSCN also engaged with other key stakeholders such as the Office of the Prime Minister (Department of Public Service Management), the Chamber of Mines of Namibia, the Office of the Erongo Governor, Ministry of Home Affairs, UNAM-Geology Department and Namibia Students Financial Assistance Fund (NSFAF) through the Ministry of Mines and Energy.

Outreach for Geoscience Awareness

During 2021, an initiative to advance geoscience awareness was developed, which consists of two phases. Phase One consisted of an engagement workshop of key media practitioners (33) from NBC's radio services (radio presenters, producers and practitioners), public relation officers, scientists and geoscientists from various disciplines and institutions. The workshop entitled '*Bringing NBC media practitioners to the world of geoscience*' took place from 04-08 October 2021.

"The workshop was highly informative, what I learned are the value chains of various Geoscience fields and their application in infrastructure, mineral resources water resources and socio - economic development projects"
A media practitioner - Kaisames FM

The main objectives of the workshop were as follows:

- Participatory engagement and dialogue between geoscientists-scientists and NBC media practitioners.
- Provide and enhance knowledge and understanding of the many aspects of geosciences and their application to socio-economic development.

A total of 83 participants from 12 organizations (Ministry of Mines and Energy (MME), Ministry of Agriculture, Water and Land Reform (MAWLR), City of Windhoek (CoW), NAMWATER, Ministry of Environment, Forestry and Tourism (MEFT), Geoscience consultants, NAMCOR, QKR Namibia Navachab Gold Mine, University of Namibia (UNAM)-Geology Department, Uranium Institution of Namibia, UNESCO and Namibian Broadcasting Corporation (NBC)) were involved.

The expected outcome from the workshop was that participants (media practitioners) with the assistance of geoscientists will be able to interpret, translate and communicate geo-information to the public in an understandable manner.

Hand over of certificate by Dr Schneider (Councilor, right) and Mr Mwanyangapo (NBC, center) to Mr Andreas (MME, left).

The Windhoek Seismic station is one the Geophysics Stations of the GSN where seismic activities are recorded.

The National Earth Science Museum (MME) which houses the largest collection of Namibia's mineral, rock, and fossil record.

NBC visited the NAMCOR interpretation room and core store to familiarise with the role of Geosciences in hydrocarbon exploration.

"It gave us knowledge to educate our communities about the importance of protecting their environment."
A media practitioner - !ah Radio FM

NBC visited the QKR Namibia Navachab Gold Mine, Karibib.

"As unenlightened person one assumes as soon as the prefix "geo" is mentioned, one thinks of rocks and minerals. One does not have the insight and the full scope of the world revolving around Geosciences. How development, from the planning to the materials and the day-to-day use, such as kitchen bases, pots, toothpaste, even make-up are products of minerals. Furthermore, the severe effects of geohazards if consultation is not done thoroughly was one big take home."
A media practitioner - Funk House FM

"The engaging outdoor activities incorporated in the sessions were very complimentary and ave an insight into the practical implementation of the different fields of Geosciences."
A media practitioner - Funk House FM

The participants also visited outcrops around Windhoek - Pahl Fault-several buildings were visited to observe the resultant effects of fault movements; and the CoW-Department of Infrastructure Water Technical Services.

The MME, Geological Survey of Namibia, and UNESCO are greatly applauded for financially supporting of the workshop. And in-kind contribution from NAMWATER, UNAM-Geology Department, CoW-Department of Infrastructure Water Technical Services, MAWLR, NAMCOR, MEFT is highly appreciated.

For Phase Two, it is envisaged that the strategic partnership and cooperation between the GSCN and NBC will lead to the production of several radio dramas covering different aspects of geoscience. The production of radio dramas of 8 different Geoscience themes, that will be translated in 9 vernaculars to be broadcasted on 11 different radio stations. The first production will commence during the third week of January 2022 and many Geoscientists are expected to participate in the Radio talk show called '*Geoscience Corner*". About 1.6 million NBC listeners (out of 2.6 Million Namibian population) will be reached by this initiative.

!! Reminder: please register/renew your membership !!

We invite all our members and the Geoscience community at large to send contributions or suggestions to the newsletter team @ secretary@geocouncil.org

We wish all our Members (current and future) a Merry Christmas and Prosperous new year!!

Groundwater resources of Namibia

By Asteria Mwetulundila
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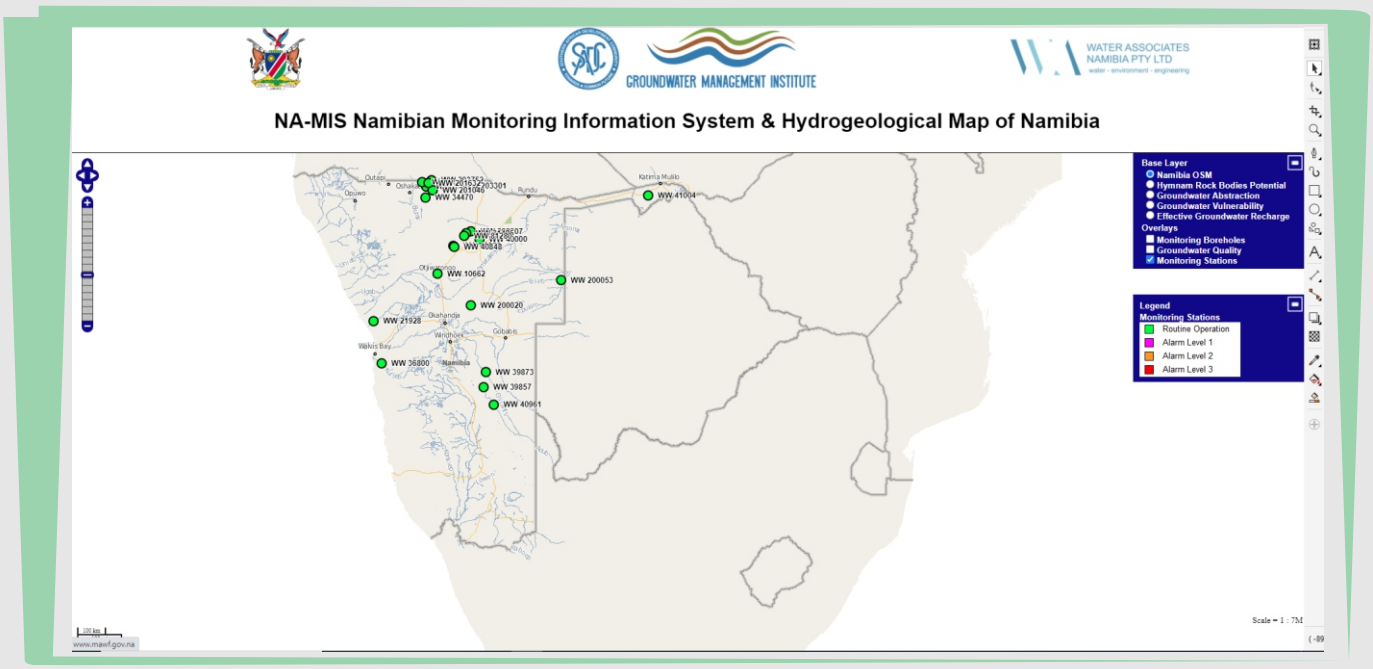
Namibia is a semi-arid to arid country and the driest nation in the Sub-Saharan Africa. It receives less annual rainfall in comparison to the amount of water evaporating back into the atmosphere. On average the annual rainfall received in Namibia is approximately 600mm, while about 3000mm of rainwater evaporates annually. Dams had been constructed in most suitable areas across the country, however they are also affected by high evaporation rates and siltation, which reduces their capacity to fully operate.

There are four perennial rivers namely Kavango, Zambezi, Kunene and Orange Rivers which are transboundary water sources shared with other neighboring countries. Despite the readily accessibility of these water; if one country wishes to abstract large volumes of water from the shared river, it requires an approval from other countries that shares river with it. There are integrated water resource management (IWRM) policies and regulations which are governing the abstraction of bulkwater from these rivers; and oftentimes the process of acquiring the abstraction permit is cumbersome and takes longer than the need to meet water demand.

The best alternative and reliable water sources in Namibia is groundwater for domestic, agricultural and industrial usage. All geological formations or rocks are not aquifers. In Namibia, groundwater can be found in alluvial aquifers, carbonate rocks known as karst aquifers, in hard and fractured rocks. Hydrogeologists use different methods mainly remote sensing and geophysics to site boreholes. The sustainable yield of various boreholes in specific sites differs especially in the hard rock systems. Fracture connectivity, porosity and permeability affects the yield of the aquifer.

Hydrogeological Map of Namibia

The hydrogeological Map of Namibia and its handbook titled: *Groundwater in Namibia* are the tools widely used for groundwater management. These were developed as a consequence of reviewing and updating the pre-existed first and un-revised second editions by the Ministry of Agriculture, Water and Land Reform, who are the custodian of groundwater resources in Namibia; and launched by Honourable Minister Carl Schlettwein in October 2021.



A NA-MIS Web-based Application (https://www.na-mis.com/) is a digital application which provides public access to real-time groundwater levels, water quality data and static versions of the Hydrogeological Map of Namibia including each of the inset maps. 36 Groundwater Master Monitoring Stations utilizing borehole telemetry applications, feed live data to this digital application.

This “Map” gives the user an overview of various aspects of groundwater characteristics across the country. It confirms groundwater variability and other aspects which any water user should consider prior to deciding to sink a borehole.

Environmental Impact Assessment Training for Municipal and Village Council Environmental Health Officers In Namibia

By Nerson Tjelos
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Environmental protection remains a key challenge in many villages and towns in Namibia. An environmental impact assessment is an important tool to inform developers, decision-makers, regulators and stakeholders, about the possible environmental, social and economic costs of the proposed development project(s) in the local authorities.

There is a genuine need to develop the capacity of environmental health officers and managers and all concerned stakeholders including regulators to screen and scope the environmental assessment process, to conduct transparent public consultations and to evaluate the environmental assessment reports. At the same time, there is a need for local authorities and their representatives to review and interpret environmental assessment reports for better implementation of environmental management plans; and for consultants, institutions and academicians to conduct an effective environmental assessment process.

Excel Dynamic Solutions Pty Ltd recognized this need and conducted a free, hands-on 2-day training (25-26 November 2021) aimed at giving exposure to the municipal and village councils' environmental health officers on the environmental impact assessment process with specific reference to townships development, waste management, urban geology, integrated water resource management and sustainability.

The training programme compromised of presentations from local experts, covering different areas of environmental geoscience, including among others:

- Prof. Benjamin Mapani: Groundwater, environmental geology aspects and the need for environmental assessment for expansion of Towns.
- Ms Claudia Mutongolume: The role of a geological map in urban development and risks assessment.
- Mr Rodney Amster: Recent experience in the implementation of the Namibian Environmental Management Act – focusing on the integrated water resource management.
- Mrs Michelle Hailonga: The role of engineering and environmental geology division at the Ministry of Mines and Energy - benefits to village councils and municipalities.
- Ms Fredrika Shagama: Background and principles of environmental management, concepts, environmental assessment definitions, objectives, methods and tools, frameworks and benefits

Day 1: Presentation on urban geological mapping by Ms Claudia Mutongolume

Day 2: Presentation on environmental geology by Prof Ben Mapani

The 7th SGA-IUGS-SEG-UNESCO short course on African Metallogeny

By Filadelphia Mbingeneeko
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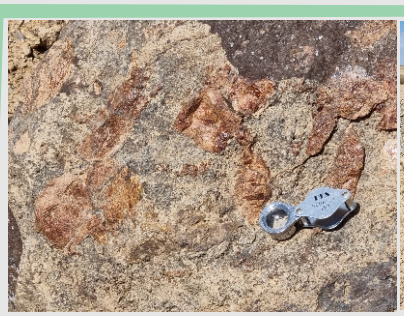
The 7th SGA-IUGS-SEG-UNESCO short course on African Metallogeny was held at the Geological Survey of Namibia, from 29 November to 3 December 2021. The course was organized by the Society for Geology Applied to Mineral Deposits (SGA), the Geological Survey of Namibia (GSN), Namibian Uranium Association (NUA), University of Namibia (UNAM) and The International Union of Geological Sciences (IUGS)-RFG (Resourcing Future Generation). Several topics were presented and discussed, in an effort to address geological, technical, and societal challenges associated with "energy metals" that are needed for low CO_2 footprint clean energy systems. Despite the unprecedented COVID-19 pandemic, about 60 local and international participants registered for the short course of which 45 took part in the post workshop field excursion.

The highlight of the short course was the 2 days post workshop field excursion led by internationally recognized experts from academia and industry. Several projects were visited within the NE trending Damara Belt, which are either exploring and/or mining raw materials required for energy transition. These projects range from brown field exploration through advanced green field exploration to the largest open pit uranium mine. Visited field trip sites include Goanikontes Uranium Leucogranites, Eureka Monazite Carbonatites, Lepidico Lithium Pegmatites and the largest open pit Rössing Uranium Mine.



Eureka, a monazite prospect in a carbonatite, currently in the brown field exploration stage being developed by E-Tech Metals. Large Monazite crystals containing praseodymium, neodymium in a dolomitic carbonatite hosted within Damaran meta-sediments.

"The 7th SGA-UIGS-SEG-UNESCO Short Course on African Metallogeny was such a prodigious event. One of the key experiences was the knowledge shared about the African Metallogeny and the important role it plays around the world. Furthermore, learning about the mineralization and the geological formation which lead to the formation of Uranium ore and having to see how magnetite and pegmatite mineralization is formed which is used in the lithium battery industries during the excursion was an awesome experience. The spectacular eye-catching site was the face of the moon outcrops which is situated in Dorob National Park, Namibia."
Silas David (Participant/Organising committee)

Lepidico has established a global footprint in lithium exploration and development projects and is currently gearing towards mine development after a successful mineral resource definition program at Helikon and Rubikon Lithium deposits Namibia.

The excursion was an opportunity to motivate and connect students to appreciate and understand theoretical concepts gained through the academic sphere. In turn, with strengthened student's knowledge foundation on different metals required for energy production, transmission and storage, come high level strategic thinking during the low carbon energy transition.

A Night of Acknowledgment for Women in Geoscience

By Josephine Uushona
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The Namibian Hydrogeology Association organised the first of many Women in Science, Technology, Engineering, Mathematics (STEM) event focusing on geosciences. A night of acknowledgment for Women in Geosciences event was held at the Namibian Scientific Society, on the 22 October 2021. The aim of the event was to create a platform for women in Geoscience to share, learn and motivate each other over a glass of wine and delicious food.

Some highlights of the evening came from the gruesome experience of the fascinating Hydrogeologist, who drove to another country alone, being detained at the borders and having car breakdowns in the wild which gave the audience chills; but above all the strength, passion, love she had for Hydrogeology was evident.

The Captivating Geostatistician, encouraged participants to always put themselves first and work towards improving oneself professionally to remain relevant as technology and professions keep evolving.

The thought leader gave an inspiring and motivating speech of her professional journey and gave tips on how to improve professionally and advised that *'in finding your purpose at work, find out those things that people say you are good at and run with those, enhance them and see how great you can become'*.

Launch of the NAAWIS and OSWSD

By Shipandeni Abraham
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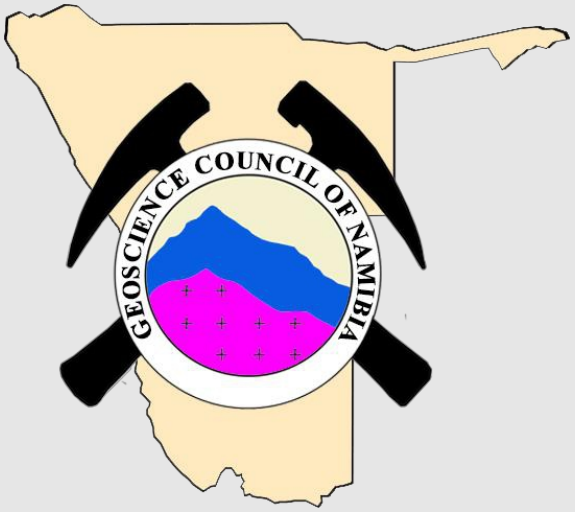
The Namibia Association for Women in Science (NAAWIS) is a non-profit association established in 2013 for women in science, technology, engineering, and mathematics (STEM) fields. The Organization for Women in Science for the Developing World (OWSD) is an international organization with headquarters in Trieste, Italy. The OWSD Namibia National Chapter was established in 2019. Both organizations aim to enhance and promote female participation in science and technology professions, in scientific leadership, and in the decision-making processes, both at the national and regional levels. Additionally, the they aim to attract young girls to study and pursue careers in STEM, as well as empower girls for future STEM leadership roles through peer-tutoring and youth outreach programs.

The launch of the Namibia National chapter was held concurrently with a 3-day workshop titled: *Responsible conduct of Research and Leadership Essential* on the 8-10 November 2021 offered by Prof Olubukola Babalola (Vice President of the OWSD, Africa). This workshop was attended by 30 participants from UNAM, NUST, IUM, Government, Private institutions.

NAAWIS and OWSD attendees, MME

The two Associations in partnership with UNAM and UNESCO Commission for Namibia also hosted a successful Girls in STEM Youth Camp that took place on the 14-15 October 2021. 30 girls from three public schools (Mount View, A. Shipena and Windhoek Technical High School) in the Khomas region participated. Various practical-based STEM activities, from DNA extraction to adding value to local fruits and meat, to Veterinary Science experiences were offered.



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