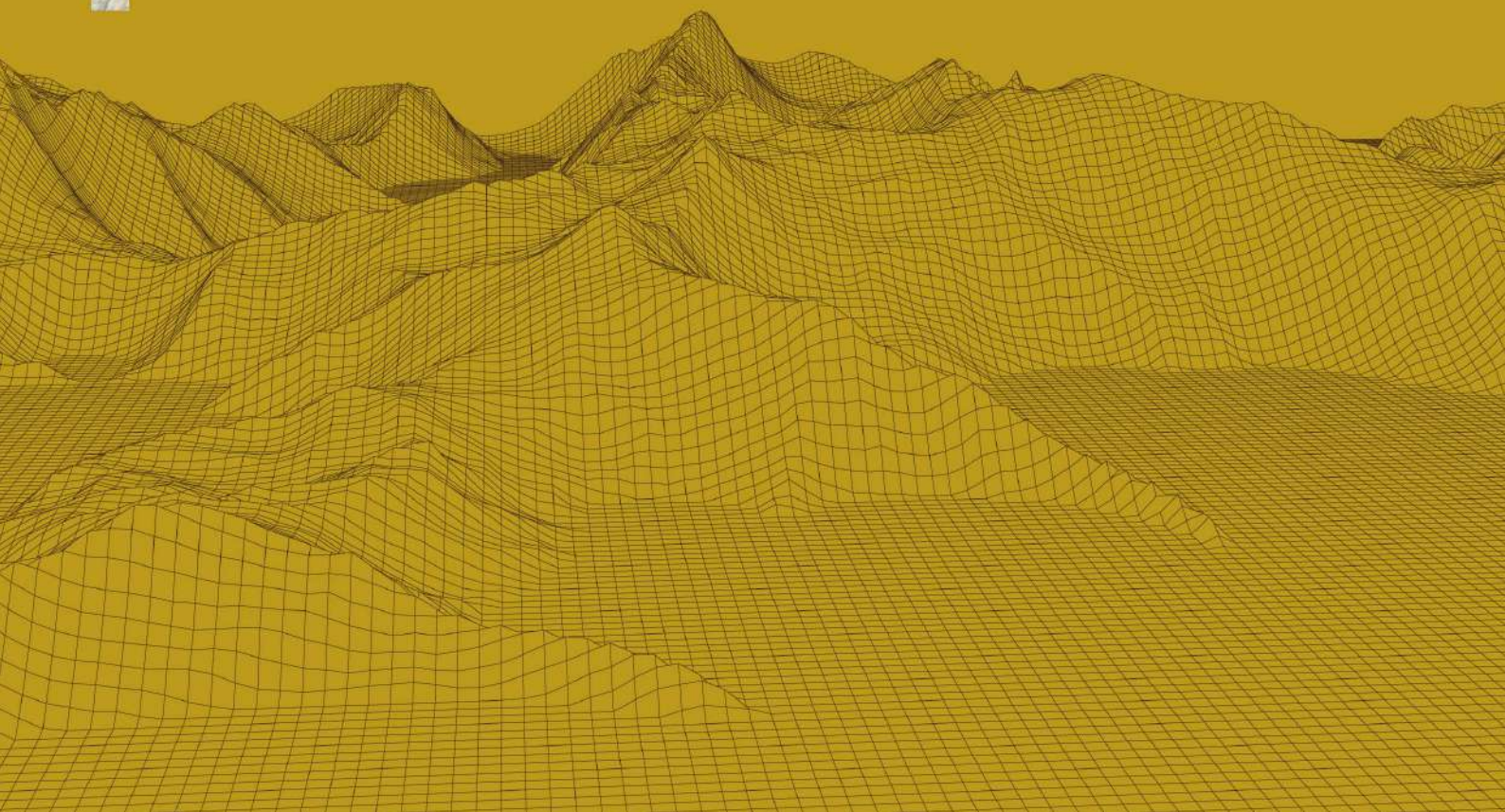




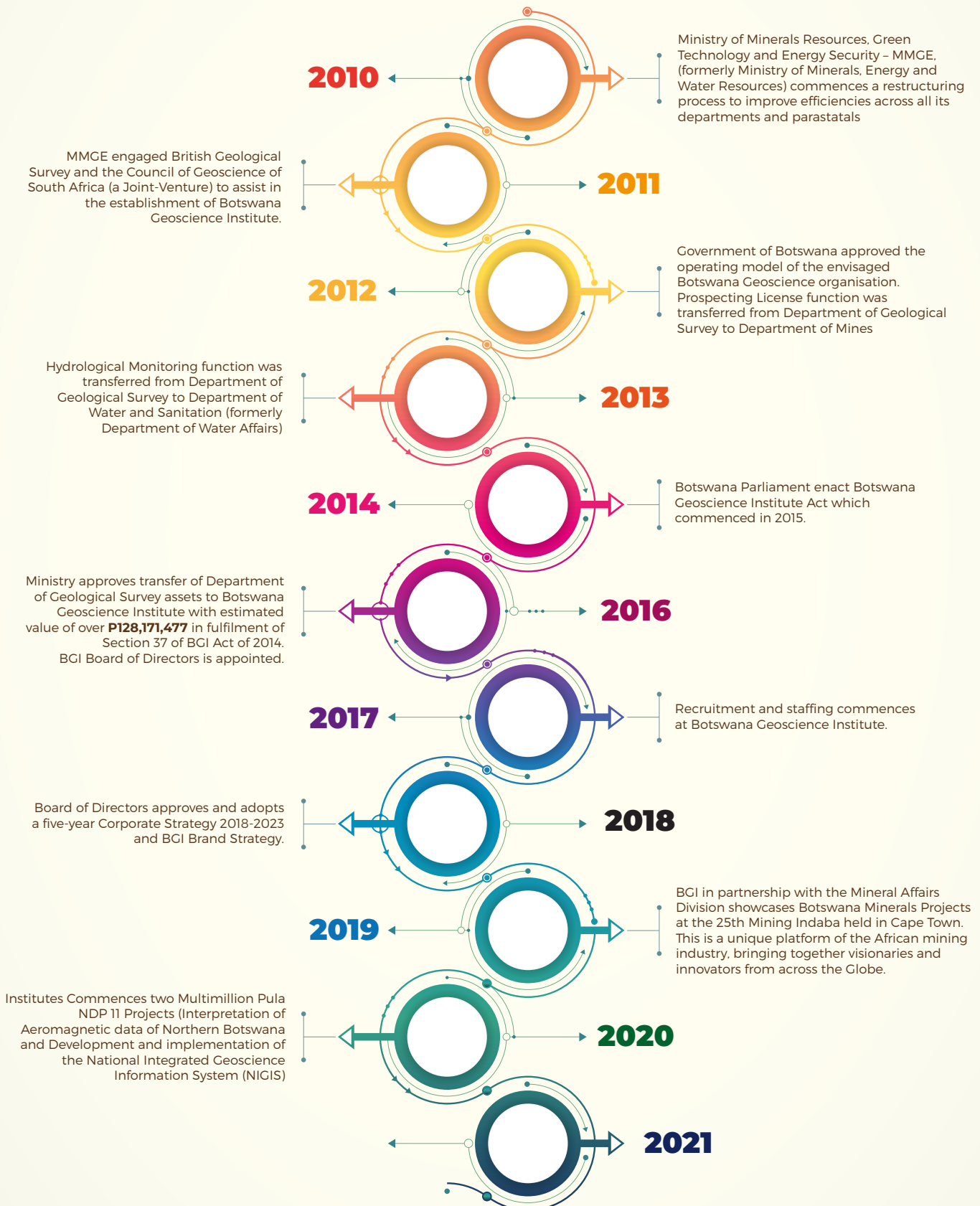
Botswana Geoscience Institute

Excellence in Geoscience

— ANNUAL REPORT
2021



Renaissance of Geoscience practice: NOTABLE TIMELINE





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ABOUT THIS REPORT

Botswana Geoscience Institute is an organisation confidently moving forward. This is a result of all efforts of the Board and all Employees who are continuously focussed on implementing essential changes and innovative ways aligned to the institute's Statutory Mandate.

The institute has adequately positioned itself to be more responsive to the country's and customer needs. By revising its Strategic Plan, much attention was given to refocusing the portfolio of strategic projects and initiatives. We refined strategic objectives based on challenges facing the Institute and learnings from the first year of implementation, and this shows our vigour more than ever before to realise our *Vision, To be a Renowned Geoscience Centre*. All these efforts are intended to realise Government of Botswana's commitment to improve efficiencies in the practice of geological survey in Botswana.

This Annual Report, therefore, like others produced in the past years, is published pursuant to Section 31 of the *Botswana Geoscience Institute Act 2014*.

The Report is a comprehensive account of the activities and operations of the Institute during the 2020/21 financial year. It includes review of strategic, operational and financial performance, and the future in line with Botswana Geoscience Act 2014 and other guiding documents.

Contact details

Feedback, comments and questions on the content of this Annual Report can be addressed to the contacts below.

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ACRONYMS

AFTAC	Air Force Technical Applications Center
BGI	Botswana Geoscience Institute
BGI ERC	Botswana Geoscience Institute Research and Editorial Committee
BITRI	Botswana Institute of Technology Research and Innovation
BIUST	Botswana International University of Science and Technology
BOPEU	Botswana Public Employees Union
BSN	Botswana Seismological Network
DGS	Department of Geological Survey
IATA	International Air Transport Association
ISO	International Organization for Standardization
IRIS	Incorporated Research Institutions for Seismology
JOGMEC	Japan Oil, Gas and Metals National Corporation
LIMS	Laboratory Information Management System
MoTE	Ministry of Tertiary Education, Research, Science and Technology
MTC	Management Tender Committee
NDP	National Development Plan
NGIC	National Geoscience Information Centre
NIGIS	National Integrated Geoscience Information System
ODR	Okavango Delta Region
OHMS	Open House Management Solutions
PGMs	Platinum Group Metals
QDS	Quarter Degree Sheets
REE	Rare Earth Element
SEG	Society of Exploration Geophysics
SGCI	Science Granting Councils Initiative
TSPs	Tirelo Setshaba Participants
UB	University of Botswana
UZ	University of Zimbabwe



**Botswana
Geoscience
Institute**

Excellence in Geoscience

ABOUT BOTSWANA GEOSCIENCE INSTITUTE





ABOUT BOTSWANA GEOSCIENCE INSTITUTE



History

Botswana Geoscience Institute (BGI) was established to undertake research in the field of geoscience, provide specialised geoscientific services and advice in all matters of geoscience and geohazards. The Institute is responsible for promoting the search for, and exploration of any mineral in Botswana and it is a custodian of all geoscience data/information.

The establishment of BGI was generally driven by the Government of Botswana's intentions to improve efficiencies in carrying out geoscience research, in line with best practices expected of a geological survey organisation (GSO). The Government of Botswana wanted to advance its desire to achieve National primary imperative of successfully implementing programmes and projects that transform the lives of Botswana's citizens for the better, within time and costs as required in the National Development Plan 10 and subsequent National Development Plans.

Since its establishment, BGI has continued to innovatively apply science and technology to understand the earth for the greater benefit of Botswana and its citizens and broaden the nation's economic base in the mineral sector.

The creation of Botswana Geoscience Institute, therefore can be defined as the renaissance of geological survey practice in Botswana, which began in 1943, during the Bechuanaland Protectorate era primarily as the search for groundwater.

BGI's historical role in the National economy, can be traced from the Bechuanaland Protectorate era throughout the period of the Department of Geological Survey. After the

transformation of the Department of Geological Survey, BGI started operations in earnest in June 2017 and currently has employed 127 staff members.

In understanding the role played by BGI's forebear, the Department of Geological Survey, and that which BGI will continue to play though at a significant and comprehensive levels, it is important to consider some of the key developmental changes that Botswana has undergone. In particular, phenomenal urbanisation in a short period of time. It is in this context that all will appreciate BGI's relevance to the socio-economic development of Botswana.

(See below)

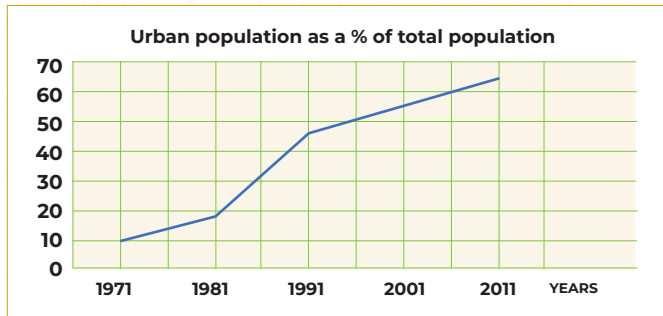


Figure 1: Growth of Urban Population in Botswana (Source - Statistics Botswana 2014)



ABOUT BOTSWANA GEOSCIENCE INSTITUTE *(Continued)*

Context

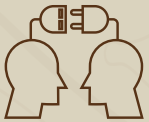
The purpose of Botswana Geoscience Institute, just like those of other geoscience organisation in other countries, is to support the socio-economic development and quality of life of its people. This role primarily aids mineral exploration and it is a long term and important objective of many resource rich nations such as Botswana.

Any Nation that resolve major national challenges, such as urbanisation, stable environment, sufficiency of critical minerals and other raw materials, access to clean water, climate change, needs latest geoscience research data. Geoscience data also require strong partnerships and multidisciplinary research and this has compelled the Institute to nourish historical collaborations and develop new ones locally and internationally.

This role has been tested and remains the same. All what has been refined is the efficiencies driven by the advent of technology and endorsements of best practices.

Geoscience Research provides new solutions for Economic Growth.

OUR VISION AND MISSION



VISION

To be a renowned Geoscience Centre



MISSION

We create economic value through advancing, promoting and disseminating geoscientific knowledge for the benefit of Botswana and our global partners

VALUES



We are **reliable** custodians of Geoscience information



We promote market-oriented and **innovative** products and services



We espouse **professionalism**



We create a conducive environment that promotes absolute **integrity**

ABOUT BOTSWANA GEOSCIENCE INSTITUTE *(Continued)*

BRAND PURPOSE



Our purpose, expressed in our mantra, **“Excellence in Geoscience”** expresses our determination to surpass expected levels of distinction in our practice of geoscience research.

BOTSWANA GEOSCIENCE INSTITUTE TRADE MARK

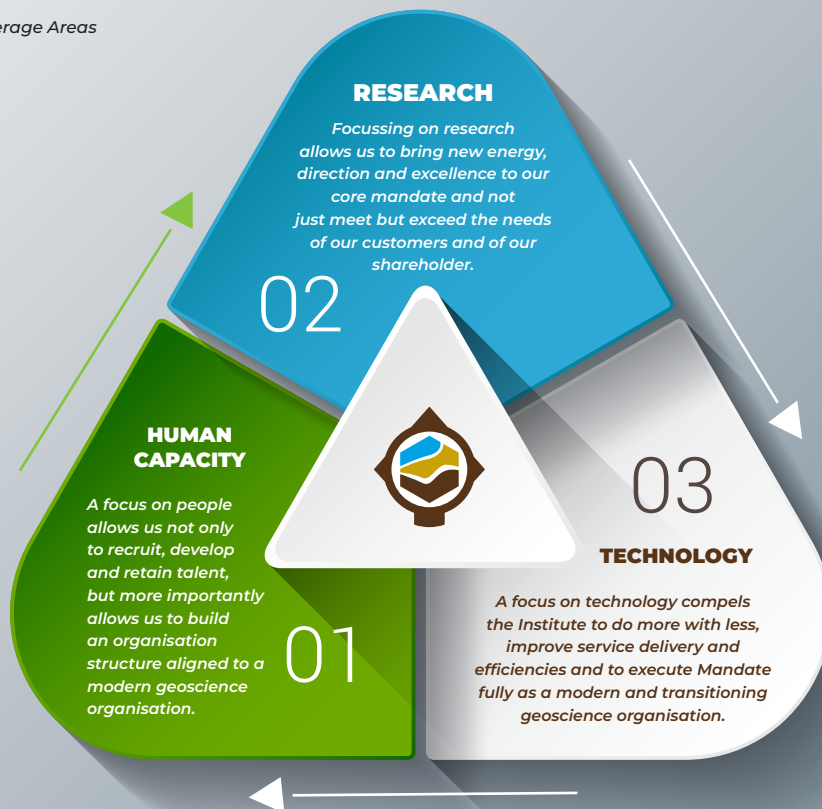
Our brand construct and logo variations (primary, secondary, white, black logo types).

<p>The Compass</p>	<p>The Magnifying Glass</p>	<p>The Drill Bit</p>	<p>The Zebra</p>

STRATEGIC LEVERAGE AREAS

BGI has three Strategic Leverage areas developed during the revision of the Strategic Plan at the end of Financial Year 2019/20.

Figure 2: BGI Strategic Leverage Areas



ABOUT BOTSWANA GEOSCIENCE INSTITUTE *(Continued)*

BGI BUSINESS STRUCTURE

BGI has seven diverse and highly coordinated business areas as depicted below;



Figure 3: BGI Business Structure

OUR STAKEHOLDERS



As we undertake our work, the key stakeholders that are of prime focus are;

- 1) Government of Botswana
- 2) Our strategic partners (both local and international)
- 3) Academia
- 4) Our suppliers
- 5) Our customers
- 6) Our employees
- 7) Communities
- 8) Non-Governmental Organisations

OPERATIONS HIGHLIGHTS

Projects and initiatives

A significant overall progress of **82% vs 94%** was realised. 9 out of 13 projects were successfully completed two (2) long term projects were within schedule and three (3) were delayed due to scope changes.

BGI has a New Look

BGI has developed a new logo reflecting its agility as a transforming organization. The Logo has an internal acceptance value of **84.3%**

NDP11 Project: NIGIS Implementation

Development and implementation of the National Integrated Geoscience Information System (NIGIS) is at **65%**. Applied Geoscience and Surveys Modules have been completed.

NDP 11 Project: - Interpretation of Aeromagnetic data of Northern Botswana

The project is on schedule at **46.6%**. Project milestones such as data collation, production of preliminary maps, processing of geophysical data, satellite images, preliminary geophysical interpretation of 41/56 quarter degree sheets (QDS), are some of the notable achievements.

BGI Editorial and Research Committee (ERC)

BGI ERC has been established and has introduced a reputable process of editing BGI research outputs.

Digitalization

Digitizing **63%** of analogue data has been completed against a target of 40%.

Geohazard Management

The project which started in June 2019 to determine location and magnitude of tremors in the Selebi Phikwe area in December 2018, was completed in May 2020. Long-term monitoring commenced in September 2020.

Search for New Mineral Commodities

Assessment of Rare Earth Elements and Battery Metals occurrences in Botswana at the Semarule and Shoshong areas were advanced.

LIM System

Library Information Management System has been provided to replace analogue laboratory data management and users are now using the system.

The Borehole system (bh.bgi.org.bw)

The System provides exploration and water boreholes information and is linked to google-map to depict the borehole locations in 3D and satellite maps. This system is accessible online.

LIBWIN (www.library.bgi.org.bw)

4999 reports inclusive of publications, bulletins and geological reports which are now available online.

Upgraded server infrastructure

Two servers which improved storage of multiple datasets and data backup. This facilitates IT business continuity.

Employee engagement

A survey to establish the level of employee engagement has revealed an overall level of **53%** engagement. The recommendations and action plan of the survey will be implemented in the next financial year.

Human Capacity development

The need to enhance research capability has been boosted by financial support from the Ministry of Tertiary Education, Research, Science and Technology (MOTE), targeting 2 PhD and 1 MSc programs.



**Professor Motsoptse
Phillip MODISI.**

Chairperson
BGI Board of Directors



CHAIRPERSON'S STATEMENT

Introduction

I am honoured to present this 5th Botswana Geoscience Institute Annual Report for the Financial Year ended March 31, 2021. This was a period of intense activity and dialogue. BGI was not spared the effects of the unprecedented challenges brought by the advent of the novel coronavirus (COVID-19) outbreak which was declared a global pandemic by the World Health Organization (WHO) on March 11, 2020.

The outbreak of COVID-19 brought drastic changes on how the institute and everyone else undertakes business amidst heightened environmental and work place hygiene concerns. We needed to observe everyday precautions such as avoiding close contact with people, take every preventive actions and comply with precautions as directed by health authorities.

As a result, we had to introspect and refocus on how we carry out our planned activities. We developed a business impact analysis to ensure business continuity and prevail against all odds. Availing data online was prioritised and accelerated. We demonstrated some resilience by delivering credible outcomes in some areas of our operations even in the face of economic headwinds.

I am therefore delighted to present this Annual Report which shows our determination to deliver our Mandate even under unusual and challenging circumstances.

Human Resources

I have no doubt that presently, BGI has skilled employees, though not at desired levels, who have laid down a foundation for achieving world class quality geoscience research for sustainable development. As the Board, we appreciate all of them and always hope for their persistent efforts.

Overall Performance

The Board is gratified with the institute's overall performance. We focused on our strengths and innovation to ensure that our targets are achieved. Example to this is the commissioning of a National Development Plan 11 (NDP 11) Project on

Interpretation of Aeromagnetic data of Northern Botswana. The project is on schedule at 46.6% completion.

We explored and optimised a blend of expertise through our partnerships to deliver on shareholder value, especially on improving access to geoscience information through information digitising and development of online platforms.



External Auditors highlights

The Board has noted recurring nonconformities to recommendations on some issues such as labelling of assets. We have made a commitment to resolve and expedite the recommended mitigations to ensure closure. We also note the escalation in Board expenses from the previous year which are justified. The Board increased its activities and including co-opting additional Directors.

CHAIRPERSON'S STATEMENT *(Continued)*

Board and Leadership changes

As the Board, we remain committed to adhering to the core governance principles and exercise the Board's fiduciary oversight role. Healthy relationship between the Board, Management and the Shareholder continued to flourish as part of the journey to create desirable performance ethic.

During the year, Mr Harold van Zyl was appointed to the Board. He brings the necessary expertise to the Board as he is an experienced Geologist with extensive involvement in exploration, mining and smelting.

The Board co-opted experts in Human Resources, Procurement and Finance. These Co-Opted Directors are; Mr Siphon Mbebe who serves in the Board Human Resources Committee, Ms Nomsa Portia Nuku-Basaakane who serves in the Board Finance, Audit and Risk Committee and Mr Othusitse Lebuletswe who was appointed to the Tender Committee.



Mr Othusitse
Lebuletswe



Mr Siphon Mbebe



Ms Nomsa Portia
Nuku-Basaakane



BGI's New Look

The Institute has a new logo that reflects its agility as a developing and transforming organization. This

logo which received an internal acceptance value of 84.3%, communicates the Institutes purpose and work more clearly. This is a symbol that expressed our highest intent to focus and meet all probable levels of distinction as we pursue the process of reinventing ourselves.

The Future as we see it

As we move forward with our journey in meeting our shareholder and customer needs, we envisage leveraging on technology, partnerships and collaborations especially as resources become scarce. We intend to optimise sharing of resources with our networks and avoid duplication and wastage.

We aim to exploit digital platforms to ensure that our work is globally accessible. Traditional platforms of sharing geoscience information are speedily shrinking and the focus is on digital platforms and avenues are rapidly increasing.

Appreciation

I would like to extend my thanks to BGI Management team for their outstanding efforts over the last year. On behalf of the Board, I express our sincere gratitude to Mr Tiyapo H. Ngwisanyi for his time as BGI CEO and at the helm of BGI Management. We would not have achieved the results that I have referred to without this team and his leadership.

I thank my fellow Board Members for their unbending support and for giving guidance in driving the institute's mandate. Finally, I extend a note of appreciation to everyone who played a part in all our work performed in the past year.

I thank you all.

Professor Motsoptse Phillip MODISI.
Chairperson
BGI Board of Directors



MR. PUSO AKANYANG
Chief Executive
Officer (Acting)



CHIEF EXECUTIVE OFFICER'S STATEMENT

Introduction

I am pleased to report on the Botswana Geoscience Institute (BGI) 2020/21 activities and operations for the first year of implementation of BGI Revised Strategic Plan 2018-2023.

I submit this review of activities and operations, as delegated. The former Chief Executive Officer, Mr Tiyapo H. Ngwisanyi, was unable to accomplish this task as his term of office ended in July 31, 2021.

This was a challenging year that started with the novel coronavirus (COVID-19) outbreak which affected our work immensely. However, we created ways to remain resolute and work even harder to achieve our strategic objectives. It is clear our efforts were successful in all the focus areas of the strategy as we had our concentration firmly set on the future.

We engaged BGI personnel and stakeholders in discussions on what was desirable and possible under the unfamiliar business environment. Our conversation was anchored on our understanding

that geoscience has a lot to offer in terms of creating solutions for sustainable growth.

In general, we are pleased that the community we serve continued to use our services despite the uncertainties during this period.

Performance Review

In this Report, we examine our performance based on strategic objectives and Strategic Leverage areas of Technology, Human Capacity and Research and matters relating to operational excellence. Our overall performance against the strategic plan stands at 76.5% indicating a satisfactory level under challenging circumstances.

CRITICAL AREAS OF SUCCESS	STATEMENT OF REVIEW
RESEARCH FOCUS AREA	<p>Search for New Mineral Commodities</p> <ul style="list-style-type: none"> a) The project of the assessment of Rare Earth Elements (REEs) and Battery Metals occurrences in Botswana produced a publication of the geological bulletin of Semarule and geological mapping and geochem sampling in Shoshong and Semarule areas. b) Ministry of Tertiary Education, Research and Technology (MOTE) provided funding of P2,600,000.00 for a nationwide assessment of Rare Earth Elements and Battery Metals occurrences. c) Completion of the report on Letlhakeng resource estimation also unlocks the possibilities of commencing cement production in the country. d) The NDP II sponsored project, the Interpretation of Aeromagnetic Data for Northern Botswana and Revision Mapping of South East Botswana is on track and preliminary maps have been produced. <p>Community Development Focus</p> <ul style="list-style-type: none"> a) A Publication on aggregates of Botswana has been completed and will form the basis for facilitating Botswana to venture into industrial minerals mining. b) Assessment of nine (9) shale/slate sites were also completed. <p>Sustainable Development</p> <ul style="list-style-type: none"> a) The institute published three geotechnical reports for Ramotswa, Lobatse and Palapye. These reports were successful in the identification and assessment of potential natural constraints that impact on development and infrastructure and how future land use planning will be affected.



CHIEF EXECUTIVE OFFICER'S STATEMENT (Continued)

CRITICAL AREAS OF SUCCESS	STATEMENT OF REVIEW
<p>RESEARCH FOCUS AREA (Continued)</p>	<p>b) Bamalete Land Board and Palapye Sub-Land Board, as critical stakeholders, have been engaged to implement the recommendations of these reports.</p> <p>Geohazard Management</p> <p>a) The project which started in June 2019 to determine location and magnitude of tremors in the Selebi Phikwe region, was extended from October 2019 to May 2020. The final report for this extended period was completed during the year and subsequently long-term monitoring commenced in September 2020.</p> <p>b) Two seismological bulletins were published detailing all seismological events recorded by the network of 21 stations monitoring seismicity in Botswana (BSN).</p> <p>c) Event bulletins for two earthquakes of magnitudes 3.6 and 3.7, in Gaborone and Maun respectively, recorded by the BSN, and felt by the public, were also produced this year.</p>
<p>TECHNOLOGY FOCUS AREA</p>	<p>Technology Infrastructure</p> <p>a) Upgrade of server infrastructure was attained by providing two servers which improved storage of multiple datasets and data backup and facilitates business continuity</p> <p>b) LIM System has been provided to replace analogue laboratory data management and users are now using the system.</p> <p>Online Systems and Platforms for data sharing</p> <p>a) Borehole system (bh.bgi.org.bw) and LIBWIN systems www.library.bgi.org.bw to collate and provide geoscience data online were completed and are accessible to the public.</p> <p>b) Development and implementation of the NIGIS system has progressed to 65% and covers areas Applied Geoscience and Surveys Modules. Development of the mineral and hydrocarbons and collections modules were not complete while the Mining Cadastre was yet to begin.</p> <p>c) The Geosoft portal system, which will avail data packages online, covering geology, geophysics and geochemistry data, was developed to 80%</p> <p>Digitalization</p> <p>a) Digitizing of analogue data progressed from 0.3% to 63% vs 40% target and more data was uploaded (into LIBWIN).</p> <p>b) Institution-wide Internet connectivity was improved from 40Mbps to 100Mbps.</p>
<p>HUMAN CAPACITY FOCUS AREA</p>	<p>Culture</p> <p>An employee engagement survey was concluded and indicated an overall level of 53 % engagement in the aspects assessed.</p> <p>Health & Wellness</p> <p>An annual calendar of events focused on weekly wellness sessions covering financial and psychosocial aspects of wellness.</p> <p>Human Capacity development (Enhancement of research capability)</p> <p>a) The Human Resources Development Programme was implemented to the level of 69% against a target of 80%.</p> <p>b) Ministry of Tertiary Education, Research, Science and Technology (MOTE), boosted our HR development programme offering financial support for 2 PhD and 1 MSc programs.</p> <p>c) BGI employee who was completing a Master's Programme in Seismology through the JICA programme has since been awarded a scholarship to progress to PhD Studies in the same area.</p> <p>d) Three webinars were conducted during the year with Elsevier, for purposes of enhancing knowledge and understanding towards the use of relevant publishers and how best to access e-resource databases.</p>

CHIEF EXECUTIVE OFFICER'S STATEMENT *(Continued)*

CRITICAL AREAS OF SUCCESS	STATEMENT OF REVIEW
HUMAN CAPACITY FOCUS AREA (Continued)	<p>Industrial Relations Relations with BOPEU remained cordial. However perpetual delays in concluding both negotiations and consultative matters due to extended engagements remain a concern.</p> <p>Organisational Structure review This project is delayed due to process of consultation mainly with the Union and now will overflow into the 2021/22 financial year.</p> <p>Introduction of Varied Work Schedules As a way to prevent the spread of coronavirus by reducing congestion at the work places, the Institute introduced Varied Work Schedules for all employees. Online platforms have also been used more extensively to achieve performance of working from home, especially for meetings and consultations and communication.</p>
OPERATIONAL EXCELLENCE	<p>Geoscience Awareness and Public Education The Institute's revealed its New Brand Identity. This brand is inspired by our mandate as detailed in BGI Act.</p> <p>Partnerships</p> <ul style="list-style-type: none"> a) Notable partnerships, discussed in detail in this report include; Bell Geospace on Mineral Prospectivity of South East Botswana, JOGMEC on revision of geological maps in the South East part of Botswana and the signing of MoU with the Ministry of Tertiary Education, Research, Science and Technology (MoTE). b) We have partnered on a coal beneficiation research study with BIUST and the University of Zimbabwe (UZ) through facilitation of Botswana Innovation Hub and Research Council of Zimbabwe for Science.

Looking Ahead

The focus for the 2021/22 is on the completion of developmental projects especially of high value and intended to benefit communities. It has become clear that, the network of partnerships and collaborations locally and international is highly necessary in our pursuit of excellence in achieving our research endeavours.

Conclusion

I would like to thank the Board, Executive team, our past CEO, Mr T. H. Ngwisanyi and Staff for their

continued support and commitment. All our plans, objectives and achievements would not be possible without our dedicated employees. Their hard work, commitment and sacrifice will not go unnoticed. The guidance of the Board and their availability to Management to provide guidance is highly appreciated.

I thank you



Puso Akanyang
Chief Executive Officer (Acting)



**Botswana
Geoscience
Institute**
Excellence in Geoscience

CORPORATE GOVERNANCE AND LEADERSHIP

BGI BOARD OF DIRECTORS



FRONT
L-R

**Professor Motsoptse
Phillip MODISI**
BOARD CHAIRPERSON

Dr. Sebusi ODISITSE
VICE CHAIRPERSON

BACK
L-R

Mr. Harold van Zyl
BOARD MEMBER

Mr. Ogone Oscar Mokoko
GABOUTLOELOE
BOARD MEMBER



BGI BOARD OF DIRECTORS (Continued)



FRONT
L-R


Ms. Bogadi T. MATHANGWANE
BOARD MEMBER


Ms. Tebogo MMOSHE
BOARD MEMBER

BACK
L-R


Ms. Ontlametse MOKOPAKGOSI
BOARD MEMBER


Mr. Puso AKANYANG
ACTING CHIEF
EXECUTIVE OFFICER

CORPORATE GOVERNANCE AND LEADERSHIP *(Continued)*

Corporate Governance Statement

BGI is governed by a Board of Directors consisting of eight (8) Non-Executive Directors. The Chief Executive Officer is an Ex-Officio Member of the Board. He is bound by a contract of employment with agreed set targets which are appraised by the Board from time to time.

BGI Board of Directors, is committed to the practice of Good Corporate Governance and observes principles of codes of Corporate Governance such as, International Financial Reporting Standards (IFRS) Corporate Governance and Procedures Manual developed by Botswana Accountancy Oversight Authority (BAOA) and King III Code on Corporate Governance. According to Botswana Geoscience Act, 2014, the selection and appointment of members of Board of Directors, lies with the Minister of Mineral Resources, Green Technology and Energy Security. The Directors' appointments are based on prescribed skills and experience have diverse skills and experience in various disciplines, which accordingly assist in ensuring BGI discharges its mandate within the stipulated provisions of the Botswana Geoscience Institute Act. Such disciplines include, Geological Engineering, Sciences, Law, Market Regulation, Finance and Accounting, Management and Business Administration.

BGI Board of Directors Profiles

BOARD CHAIRPERSON: Professor Motsoptse Phillip MODISI.

Professor Motsoptse Phillip Modisi is Botswana Geoscience Institute Chairperson appointed to this role with effect from 15 August 2019 for a period of 4 years. He holds a Ph.D. in Geology from McMaster University, M.Sc., in Geology from South Dakota School of Mines and Technology and B.Sc. (Hons) in Geology from University of Ibadan.

Professor Modisi has extensive experience in the field of Geology that includes lecturing at the University of Botswana and serving under different capacities such as Head of Geology Department, Dean of Faculty of Science and Acting Director in the Office of Research and Development among others. Professor Modisi has worked for the Department of Geological Survey, now transformed into Botswana Geoscience Institute where he served under different roles starting from Assistant Geologist, and progressed through the ranks up to the role of Assistant Director.

His service to the Nation also includes, being Member of Botswana College of Agriculture Governing Council, Chairperson of Botswana College of Agriculture Appointments and Promotion Committee and was an External Examiner for Botswana International University of Science and Technology from 2016 to 2017. He is a member of a number of organizations including the Botswana Academy of Science, Botswana Geoscientists Association and the Astronomical Society of Botswana. He is an astute publisher as shown by his articles in Geology Journals, Chapters in Books and published Monographs.

VICE-CHAIRPERSON: Dr. Sebusi ODISITSE

Dr. Odisitse has a PhD in Chemistry obtained from University of Cape Town, South Africa. He joined Botswana International University of Science and Technology as Lecturer in the Department of Chemical and Forensic Sciences. He previously worked at Botswana Institute for Technology Research and Innovation as a Researcher, Nanomaterials, under Natural Resources and Materials division.

He has more than 21 years of experience in teaching, tutoring, lecturing and as a researcher specializing in Chemistry. He is the author and co-author of more than 8 published international scholarly/ scientific journal articles and 5 technical papers in the subject of chemistry, drugs, and chemical biology. He is a member of Royal Society of Chemistry (UK), American Chemical Society (USA) and South African Chemical Institute (SA). He is a member of The Institute of Directors in South Africa (IoDSA). He serves in a number of Boards such as Botswana Institute for Technology Research and Innovation (BITRI) and Chemical Weapons (Prohibition) Board and in several national committees.

CORPORATE GOVERNANCE AND LEADERSHIP *(Continued)*

Ms. Bogadi T. MATHANGWANE: BOARD MEMBER

Ms Mathangwane holds a Master's Degree in Water Resources from Iowa State University in the US and BSc Honors in Applied and Analytical Chemistry from the UK. She is currently working as Director for Botswana Government in the Ministry of Land Management, Water and Sanitation Services in the Department of Water and Sanitation.

Ms. Mathangwane has extensive knowledge in areas of integrated water resources management with emphasis in water conservation, water demand management, water quality and trans-boundary water resources management. She has also facilitated and directed mega water and sanitation projects in the country including those funded by different International cooperating Partners. She is a member and sits in the advisory committees of the SADC River Basin Commissions of which Botswana is party to. She was conferred with prestigious international award: **"LEADERSHIP AWARD FOR OUTSTANDING CONTRIBUTION TO WATER EFFICIENCY"** at the 2015 World Corporate Social Responsibility (CSR) Congress held at Taj Lands End, Mumbai, India. This Award was in recognition of her notable contribution to water use efficiency nationally, regionally and internationally.

Mr. Ogone Oscar Mokoko GABOUTLOELOE, Esq. Sr. PCH: BOARD MEMBER

Mr. Gaboutloeloe, Esq. Sr. PCH is an admitted attorney and a Notary Public of the High Courts of Botswana, with an LLB obtained from University of Botswana, an MSc in Strategic Management and a Masters of Commerce in Trade Law and Policy obtained from the University of Cape Town.

He is presently employed by Air Botswana, as General Counsel and Director Legal Services. He has previously worked for Botswana Post for over half a decade in various roles including as Head of Government Relations, Regulatory Affairs, International Postal Affairs, and Corporate Strategy and External Relations. His professional experience has been across diverse sectors including NGO's, medical insurance providers, a private hospital, the Botswana Unified Revenue Services, and the Public Procurement and Asset Disposal Board. Mr. Gaboutloeloe is a Member of the International Air Transport Association (IATA) Legal Advisory Council - a role he was appointed to by IATA Board of Governors at the Annual General meeting held in Seoul, Korea in June 2019. He is a lifelong member of the Scout Movement, has served as Legal Advisor to Botswana Scouts Association, has sat on various Boards including Non-Governmental Organisations, a private sector property investment consultancy firm and he is a member of Labour Advisory Board.

Mr. Gaboutloeloe has contributed two chapters to 'The Future is in the Post', a Postal Industry journal. He is a member of the Law Society of Botswana of good standing and a member of the FIFA club licensing committee, the First Instance Board (FIB) of the Botswana Football Association.

Ms. Ontlametse MOKOPAKGOSI: BOARD MEMBER

Ms. Mokopakgosi has MA in Health Policy, Planning and Management from University of Leeds, UK and a Bachelor of Arts in Social Science, (Economics and Demography), from the University of Botswana.

In June 2016 she joined the Human Resource Council as Manager, Human Resource Development Planning. She previously worked as Deputy Permanent Secretary at the Ministry of Mineral Resources, Green Technology and Energy Security and the Ministry of Health responsible for Corporate Services. She previously served as a member of the National Vision Council, Public Service Training Advisory Committee, and SADC Human Resource Planning Sub-Committee. Ms Mokopakgosi is a Co-Author of "National Health Accounts for Botswana: 2000-2012" and "Public-Private options for expanding access to human resources for HIV/AIDS in Botswana", October, 2007, publications.

CORPORATE GOVERNANCE AND LEADERSHIP *(Continued)*

Ms. Tebogo MMOSHE: **BOARD MEMBER**

Ms. Tebogo Mmoshe is a Chartered Accountant (ACCA) and a Fellow member of the Botswana Institute of Chartered Accountants. She has an MBA obtained from University of Derby, UK, BSc (Hons) in Applied Accounting from Oxford Brookes University, UK. She is a Certified Risk Analyst by International Academy of Business and Financial Management (IABFM). She went through the Executive Development programme by University of Cape Town (UCT) Graduate Business School, South Africa and has Diploma in Telecoms from Commonwealth Telecommunications Organisation.

She is currently holding a position of Director Compliance and Monitoring at Botswana Communications Regulatory Authority (BOCRA), before that she was the Head of Finance. Previously, she worked at Botswana Unified Revenue Service as Acting General Manager and Botswana Meat Commission as Internal auditor.

Mr. Harold van Zyl: **BOARD MEMBER**

Mr. Harold van Zyl was appointed to Botswana Geoscience Institute Board of Directors on August 01, 2020 for a period of four (4) years up to March 31, 2024

Mr. van Zyl holds a B.Sc. in Geology obtained from University of Botswana. He also holds several post graduate qualifications from University of Witwatersrand, University of Stellenbosch and University of Johannesburg, in Mining Engineering, Leadership and Management. He currently runs his own company Harkoo (Pty) LTD responsible for all Managerial and Technical Services. Mr van Zyl Started his career as a regional geologist at the Department of Geological Survey and later joined Falconbridge Explorations (Botswana).

Mr. van Zyl also worked for BCL Limited, a Mining and Smelting organization as Divisional Manager-Resource Planning and BCL Exco Team Member. This was a portfolio responsible for all Technical Services and Safety, Health and Environment. He is very passionate about corporate social responsibility (CSR) and led some of BCL CSR initiatives such delivery of school furniture for a reception class at Lepokole Primary. Mr. van Zyl has over 30 years of experience as a geologist specialising in Regional Geology, Mining Geology and Exploration with a solid business background and extensive knowledge of mining economics, risk management and financial reporting.

Mr. Puso Akanyang: **ACTING CHIEF EXECUTIVE OFFICER**

Mr Puso Akanyang was appointed the Acting Chief Executive Officer of BGI following the end of tenure of office of Mr Tiyapo H, Ngwisanyi on July 31, 2021.

Mr Akanyang is an experienced Geologist holding MSc in Engineering Geology from Leeds University and a BSc in Geology from University of Botswana. He has over 29 years of varied experience in regional geological mapping, geological research, advanced Mineral exploration and Mining Geology and Mining Geotechnics.

Mr Akanyang has authored and co-authored three (3) regional geological maps five (5) professional publications and collaborations on papers in geology, geochemistry, geochronology and stratigraphy. He is also a leader and manager with experience underpinned by strong technical ability, focused delivery, mentorship and leadership in planning, development and co-ordination of short and long-term operational plans and strategic research programs. in geology, structural geology modelling, open pit and underground rock mechanics and possess strong verbal and written reporting skills.

He started his career with the department of geological surveys and subsequently worked for the private sector including consulting companies, exploration and mining companies before joining BGI as the director for Science delivery in 2017.



CORPORATE GOVERNANCE AND LEADERSHIP *(Continued)*

Executive Management



FRONT
L-R


MR. PUSO AKANYANG
Acting Chief
Executive Officer


MR. JAMES B. MOLOSANKWE
Manager, Marketing and
Communications


MS. CHANDAPIWA MOGOBE
Manager, Strategy and Risk

BACK
L-R


MS. LESEGO P. PETER
Director, Information
Delivery


MR. KEVIN K. MASUPE
Director, Corporate
Services

CORPORATE GOVERNANCE AND LEADERSHIP *(Continued)*

Executive Management

The BGI Board, subject to predefined limits, has delegated its executive authority to the Executive Management Committee, (EXCO), headed by the Chief Executive Officer (CEO).

The EXCO is responsible for proposing strategic alternatives to the Board and is accountable for the implementation of strategies, policies, and other decisions approved by the Board. It manages the business and affairs of the Institute, implements strategic decisions, prioritises the allocation of capital, technical and human resources and establishes best management practices.

Responsibilities of the Board

BGI Board of Directors is responsible for the general control of the performance and management

of the undertakings and affairs of the Institute. In particular, BGI Board of Directors' responsibilities are;

- Determine corporate policy and provide strategic direction for giving effect to the objectives of the BGI Act,
- Determining the general performance of the Institute,
- Ensures compliance with applicable Laws and Regulations,
- Approve significant capital expenditure projects, selection of service providers and major financial proposals,
- Advise the Minister to change, review or formulate geosciences related policies and strategies where necessary, and
- Do such other things as provided by the BGI Act or as may be necessary to the proper implementation of the BGI Act.

Composition of BGI Board of Directors

Minister of Mineral Resources, Green Technology and Energy Security, acting in accordance with Botswana Geoscience Institute Act Section 6 (5), appointed the BGI Board of Directors as indicated below table. These Members are appointed by reason of their expertise and experience in the areas relevant to the function and Mandate of the Institute.

Table 1: Composition of BGI Board of Directors

NAME	PROFESSION/ QUALIFICATION	CURRENT OCCUPATION AND COMPANY	POSITION BOARD, (e.g. Board Chairperson, Audit/HR Committee Chairperson or Ordinary Member)	DATE OF FIRST APPOINTMENT	EXPIRY DATE
Professor Motsoptse Phillip Modisi	PhD in Structural Geology	Associate Professor of Geology at The University of Botswana	Chairperson of the Board	15 August 2019 First term of appointment	August 2023
Dr. Sebusi Oditse	PhD in Chemistry	Lecturer – Botswana International University of Science and Technology	Vice Chairperson Chairperson, Board Technical Committee Member of Board Finance, Audit & Risk Committee	Re-appointed for second term in July 2020	August 2023
Ms. Tebogo Mmoshe	MBA, BSc (Hons) in Applied Accounting and ACCA	Director Internal Audit – Botswana Communications Regulatory Authority	Chairperson, Board Finance, Audit and Risk Committee Member of the Technical Committee	Re-appointed for second term in July 2020	August 2023
Ms. Bogadi T. Mathangwane	Master's Degree in Water Resources from Iowa State University, USA	Director, Department of Water Affairs, Ministry of Land Management, Water and Sanitation Services.	Member of Board Technical Committee, Member of Board Tender Committee	November 01, 2017. First term of appointment	November 2022

CORPORATE GOVERNANCE AND LEADERSHIP *(Continued)*

Table 1: Composition of BGI Board of Directors *(Continued)*

NAME	PROFESSION/ QUALIFICATION	CURRENT OCCUPATION AND COMPANY	BOARD, POSITION (e.g. Board Chairperson, Audit/HR Committee Chairperson or Ordinary Member)	DATE OF FIRST APPOINTMENT	EXPIRY DATE
Ms. Ontlametse Mokopakgosi	MA in Health Policy, Planning and Management	Manager, Human Resource Development Planning – Human Resource Development Council	Chairperson, Board Human Resource Committee Member of Finance, Audit & Risk Committee	Re-appointed for second term in July 2020	August 2023
Mr. Harold van Zyl	B. Sc., [Geology]	Director and Country Manager-(HARKOO Pty LTD)	Member of Board Technical Committee Member of Board Human Resource Committee	01 August 2020 First term of appointment	July 2024
Mr. Ogone O. M. Gaboutloeloe	Bachelor of Laws (LLB), Masters of Science in Strategic Management and Masters of Commerce in Management Practice specializing in Trade Law and Policy	An admitted attorney and a Notary Public of the High Courts of Botswana He is presently employed by Air Botswana, the national airline, as General Counsel and Director Legal Services	Chairperson, Board Tender Committee Member of Finance, Audit & Risk Committee	Re-appointed for second term in July 2020	August 2023

Attendance and meetings of the Board and Committees

The Board met on 10 (Ten) occasions during the financial year 2020/21 to consider various strategic and policy issues matters having material effect on the Institute's affairs.

During the year under review, Members of the Board and as part of the respective committees attended the following meetings.

Table 2: Record of meeting attendance of the Board and Committees

NAME	POSITION	ORDINARY BOARD	SPECIAL BOARD CONSULTATIVE MEETINGS	FINANCE, AUDIT & RISK COMMITTEE	HUMAN RESOURCES COMMITTEE	TENDER COMMITTEE	TECHNICAL COMMITTEE	JOINT BFARC & BTENDER
Professor Motsoptse Phillip Modisi	Chairperson	5	5	N/A	N/A	N/A	N/A	N/A
Dr. Sebusi Oditse	Vice Chairperson	5	5	14	N/A	3	5	2
Ms. Bogadi T. Mathangwane	Member	5	4	1	8	4	4	2
Mr. Harold van Zyl	Member	2	3	1	7	N/A	2	N/A
Ms. Tebogo Mmoshe	Member	4	4	12	N/A	N/A	2	2
Ms. Ontlametse Mokopakgosi	Member	4	4	14	8	4	3	2
Mr. Ogone O. M. Gaboutloeloe	Member	5	6	13	8	4	N/A	2
Mr. Tiyapo H. Ngwisanyi	CEO	4	4	4	4	4	4	4

CORPORATE GOVERNANCE AND LEADERSHIP *(Continued)*

Attendance and meetings of the Board and Committees *Continued*

Table 2: Record of meeting attendance of the Board and Committees

NAME	POSITION	ORDINARY BOARD	SPECIAL BOARD CONSULTATIVE MEETINGS	FINANCE, AUDIT & RISK COMMITTEE	HUMAN RESOURCES COMMITTEE	TENDER COMMITTEE	TECHNICAL COMMITTEE	JOINT BFARC & BTENDER
Dr, Budzanani Tacheba (Till June 2020)	Member	2	N/A	4	N/A	1	1	2
Prof Shemang Elisha (Till June 2020)	Vice Chairperson	1	N/A	N/A	1	N/A	1	N/A

Co-opted Board Members record of meetings

NAME	POSITION	SPECIAL BOARD CONSULTATIVE MEETINGS	FINANCE, AUDIT & RISK COMMITTEE	HUMAN RESOURCES COMMITTEE	TENDER COMMITTEE	TECHNICAL COMMITTEE
Mr Siphon Mbebe	Member - Board Human Resource Committee	4	N/A	10	N/A	N/A
Ms Nomsa Portia Nuku-Basaakane	Member - Finance, Audit and Risk Committee	2	2	N/A	N/A	N/A
Mr Othusitse Lebuletswe	Member - Board Tender Committee	1	N/A	N/A	2	N/A

Remuneration of Members of the Board

Except for the Chief Executive Officer, members of the Board are not entitled to monthly or annual salaries. Instead, they are paid sitting allowance at Board and Committee meetings. Below is the detail of Board sitting allowance payments for the year under review.

Table 3: Remuneration of members of the Board

BOARD MEMBER	POSITION	SEATING ALLOWANCE	TRAVEL	BUSINESS COMS TOOLS	TOTAL
PROF. MOTSOPTSE MODISI	Chairperson	26,775.00	-	12,000.00	38,775.00
PROF. ELISHA SHEMANG (Until June 2020)	Vice Chairperson	3,780.00	-	3,000.00	6,780.00
DR. SEBUSI ODISITSE (Appointed Vice Chairperson from July 2020)	Vice Chairperson	44,100.00	4,293.00	12,000.00	60,393.00
DR. BUDZANANI TACHEBA (Until June 2020)	Member	12,600.00	-	3,000.00	15,600.00
MR. OGONE GABOUTLOELOE	Member	51,660.00	-	12,000.00	63,660.00

(Table Continued to page 29)

CORPORATE GOVERNANCE AND LEADERSHIP *(Continued)*

Remuneration of Members of the Board *Continued*

Table 3: Remuneration of members of the Board

BOARD MEMBER	POSITION	SEATING ALLOWANCE	TRAVEL	BUSINESS COMS TOOLS	TOTAL
MS. TEBOGO MMOSHE	Member	34,020.00	-	12,000.00	46,020.00
MS. ONTLAMETSE MOKOPAKGOSI	Member	49,140.00	-	12,000.00	61,140.00
MR. HAROLD VAN ZYL	Member	20,160.00	3,312.50	7,000.00	30,472.00

Co-opted Board Members Remuneration

Table 4: Co-opted Board Members Remuneration

NAME	POSITION	SEATING ALLOWANCE	BUSINESS COMS TOOLS	TOTAL
Mr. Siphon Mbebe	Member – Board Human Resource Committee	17,640.00	9,000.00	26,640.00
Mr. Othusitse Lebuletswe	Member - Board Tender Committee	6,300.00	9,000.00	15,300.00
Ms. Nomsa Nuku-Basaakane	Member – Finance, Audit and Risk Committee	5,040.00	9,000.00	14,040.00

Board Committees

The Board is accountable for the Institute's activities and deals with all organisations business and achieves this through specifically delegated Committees. The Board has (4) standing specialist committees.

- Human Resource Committee.
- Finance, Audit and Risk Committee,
- Technical Committee and
- Tender Committee

Human Resource Committee

- Ms. Ontlametse Mokopakgosi - **Chairperson**
- Ms. Bogadi T. Mathangwane - **Member**
- Mr. Ogone O. M. Gaboutloeloe - **Member**
- Mr. Harold van Zyl - **Member**
- Mr. Siphon Mbebe - **Co-opted Member**

Technical Committee

- Dr. Sebusi Odisitse - **Chairperson**
- Ms. Tebogo Mmoshe. - **Member**
- Mr. Harold van Zyl - **Member**
- Ms. Bogadi T. Mathangwane - **Member**

Finance, Audit and Risk Committee

- Ms. Tebogo Mmoshe - **Chairperson**
- Dr. Sebusi Odisitse. - **Member**
- Mr. Ogone O. M. Gaboutloeloe - **Member**
- Ms. Ontlametse Mokopakgosi - **Member**
- Ms. Nomsa P. Nuku-Basaakane - **Co-opted Member**

CORPORATE GOVERNANCE AND LEADERSHIP *(Continued)*

Tender Committee

The Committee ensures that all tenders within the authority of the Board are addressed in a transparent and procedural manner to enhance an effective control environment in the Institute's procurement process and that the Board encourages the necessary respect for control by management and employees of the Institute.

The Board Tender Committee has the authority to deliberate and decide tenders in excess of Pula 5 million. In order to expedite the business operations, authority for tenders of Pula 5 million and below has been delegated to a Management Tender Committee (MTC), a sub-committee consisting of Management staff and the outcomes of the tender evaluation and adjudications are reported to the Board Tender Committee on a periodical basis.

Composition;

Mr. Ogone O. M. Gaboutloeloe	- Chairperson
Dr. Sebusi Odisitse.	- Member
Ms. Ontlametse Mokopakgosi	- Member
Mr. Othusitse Lebuletswe	- Co-opted Member

Compliance

BGI operates within a highly regulated environment under the Ministry of Mineral Resources, Green Technology and Energy Security. The Institute ensures that, other forms of legislation, policies that do not fall within the ambit of MMGE, but have effect on the institutes activities and operations, are observed as required.

Ethical leadership and Corporate Citizenship

BGI Board of Directors appointed in terms of BGI Act, 2014 has generally met the expectations under this principle.

The Board set the strategic direction and has approved annual budgets, major contracts and

brought leadership and commitment to the business of the Institute. It has effectively led the Institute affairs in accordance with its statutory Mandate.

The Board understands that corporate citizenship starts with running a successful geoscience organisation by producing the right solutions for its customers and making valuable contribution to economic development of the country through implementation of various projects in collaboration with its partners.

Corporate Social Investment in the form of donations and other kinds of financial assistance, made for altruistic purpose, requires attention by creating a deliberate effort supported by a judicious budget.

Audit Committee

The Board has an independent and effective Finance, Audit and Risk Committee composed of qualified accounting professionals and Chaired by Ms. T. Mmoshe (MBA & ACCA) and a Fellow Member of the Botswana Institute of Chartered Accountants.

Internal Auditor conducts independent assessments and submits the Reports to the BFARC for review and actions. BFARC ensures that External Auditors provide the overall assurance according to International Financial Reporting Standard.

In line with Section 30(1) of BGI Act, The Board appointed Mazars Partnership as the Institute's External Auditors for a period of three years (2021-2023)

Internal Audit function

The Internal Audit function provides assurance to management and the Board on effectiveness of internal controls, governance processes and risk management. Internal audit approach to auditing is risk based and therefore reviews effectiveness of internal controls in the areas which pose high risk to the achievement of Institute's objectives. Some of



CORPORATE GOVERNANCE AND LEADERSHIP *(Continued)*

the areas in which internal controls were reviewed during the period include management accounts, supplier payments, access control, collections and auction sale.

The Governance of Risk

The Board assumed overall responsibility for risk governance through overseeing the identification of key risk areas and key performance indicators of BGI's business. The Institute's risk appetite was gauged to guide adoption of an enterprise wide risk management methodology.

Corporate wide operational risk registers were drawn, and the Board ascertained alignment of the risk management process to the corporate strategy. Monitoring through risk assessments is being carried out on a continuous basis.

Development of an enterprise risk management policy was at advanced stage of the approval process. Design of holistic mechanisms to identify areas of potential problems in performance before a crisis occurs was underway and drafting of a business continuity management policy.

In future, the Board endeavors to ensure that processes are in place to enable accessible risk disclosures to stakeholders, particularly geohazard risks, in line with the institute's mandate.

The Office of Internal Audit has conducted audits designed to safeguard the Institute's assets and compliance with processes/procedures and proper records keeping that facilitate availability of reliable information.

The Governance of Information Technology

The Board has approved the Information, Technology and Communication Strategy with focus on the

current and envisioned ICT environment to support. Through adoption of a robust IT governance framework, ICT related risks will be effectively managed, and additional controls identified in support of the enterprise risk and business continuity management methodology.

Compliance with Laws, Rules, Codes and Standards

The Board, through the office of the Board Secretary/ Legal Services, and Finance Department, endeavours to ensure that the business of the Institute complies with the laws of Botswana and other standards. The Board secretary provides independent guidance to the Board on their fiduciary duties and draws their attention on relevant legislation such as Declaration of Assents.

BGI ensures compliance with the BGI Act and all other Statutes relating to its business. In addition, complies with Government of Botswana policies and directives on local economic empowerment such as, Economic Diversification Drive (EDD), supporting marginalized groups such as people living with disabilities, women youth and those in rural settlements.

Stakeholders Relations

The Board, through the Chief Executive Officer, has maintained active dialogue with various Government Ministries and Departments, industry and other stakeholders. Issues raised during meetings with stakeholders are attended expeditiously and addressed appropriately.

Management on regular basis initiate platforms to engage stakeholders on issues on common interest and the Institute's business operations.





**Botswana
Geoscience
Institute**

Excellence in Geoscience

**RESEARCH FOR
SUSTAINABLE GROWTH
AND DEVELOPMENT**



RESEARCH FOR SUSTAINABLE GROWTH AND DEVELOPMENT

A number of projects and initiatives pursued so far indicates the Institute's commitment and passion to contribute immeasurably to national sustainable economic growth.

The Institute pursues its Strategy fully aware that customers' needs are fast changing especially with the fast-evolving technology. Some of the projects under the radar are historical but remain relevant to national development agenda.

Investigation and assessment of Rare Earth Elements (REE) and Battery metals

Assessment of Igneous Complex in Botswana as potential sources of Rare Earth Elements and Battery Metals (REE) started in 2018 with the investigations at Semarule Igneous Complex (SIC) around Molepolole and later at Shoshong.

The project aimed to identify areas with high potential discoveries for Battery and Rare Earth Metals using geological mapping, geophysics and

geochemistry using historical data and potential gaps.

In the previous financial year mapping and sampling was only done at the Semarule Igneous Complex (SIC) near Molepolole where a detailed geological map was published. The geology of the SIC is made up of different syenite units which have been intruded by syenite dykes, pegmatites and dolerites as shown in the map.

A carbonatite is a late intrusion in the area and is found at the centre of the complex on top of the hill. This intrusion is not shown on the map below (figure4) since it is too small. Lateral extend of the complex is not known due the sand cover but magnetic anomaly suggests the complex to be bigger than what is observed shown by the red outline in the map.

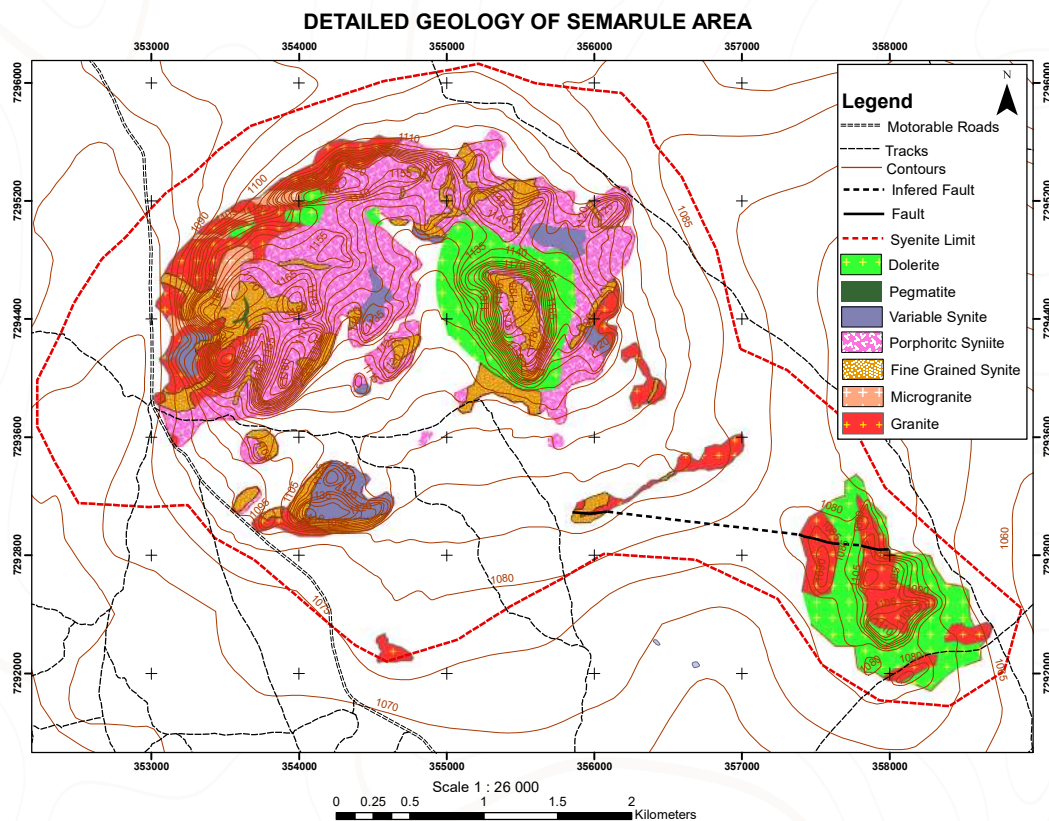


Figure 4: Detailed geology of Semarule area

RESEARCH FOR SUSTAINABLE GROWTH AND DEVELOPMENT

(Continued)

The carbonatite in the area suggests that it might be the source of REE enrichment. This makes the nature of the magma complex. There is a good correlation between thin section analysis and XRD interpretation. Enrichment of REE and some battery metals was noted when compared to results from soil. The enrichment can be associated with major minerals to a larger extent but at times enrichment can also be associated with accessory minerals.

Assessment of Cement grade calcretes in Letlhakeng

Assessment of Cement grade calcretes in Letlhakeng and other areas started in February 2018. The project is a collaboration with Botswana Institute for Technology, Research and Innovation (BITRI).

The project started with the assessment of cement grade calcretes in Letlhakeng and other areas in February 2018. Other areas assessed included Tsokung, Serorome, Maun, Nata and Nakalaphala. Out of the above, only Letlhakeng showed positive results and subsequently resource characterisation and estimation were undertaken this financial year.

At Letlhakeng, two types of calcretes were intersected during the drilling phase and these being the hardpan and nodular calcretes.

Letlhakeng study area was sub-divided into two exploration blocks A and B (figure 5) separated by a wide stream cutting across the area. Block A has calcrete with thickness ranging from 1.9m to 16.9 m and the average thickness for this block is 7m. Block B has very good calcrete with average thicknesses of 8.4m and typically ranges from 7m to 18m, covering a surface area of approximately 2.4km².

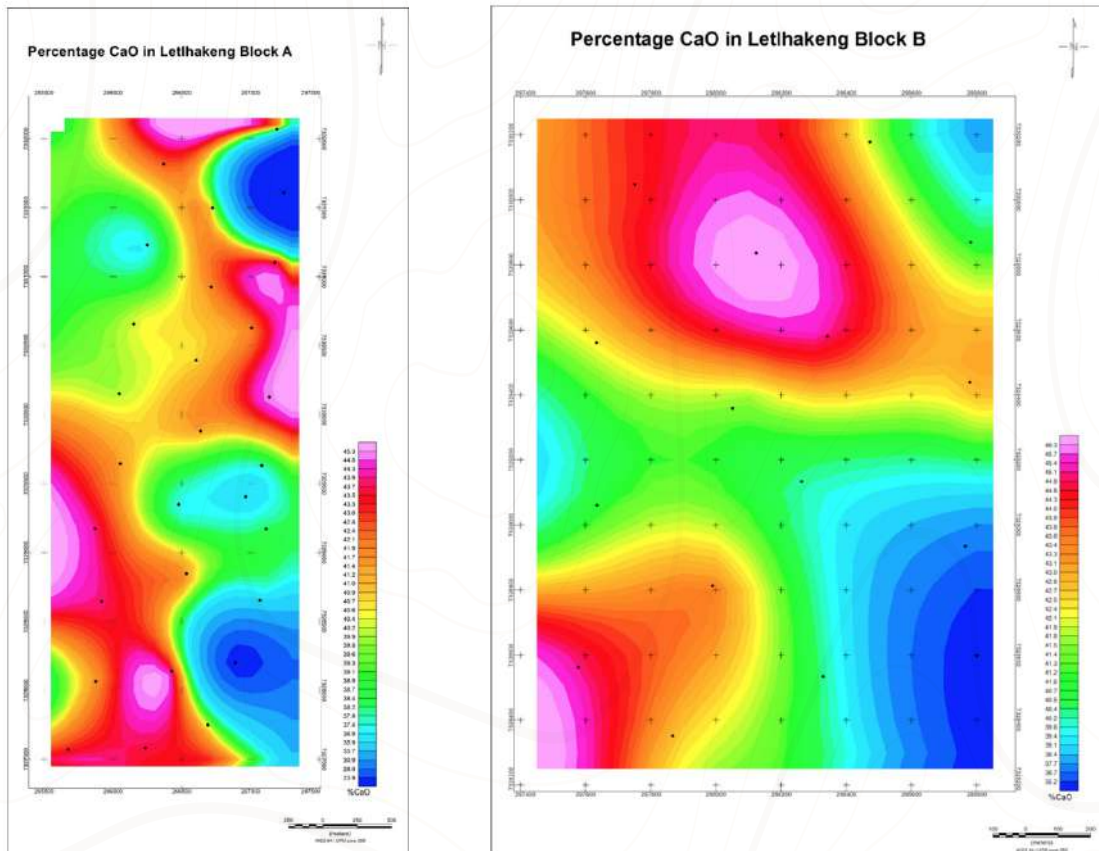


Figure 5: Spatial distribution of average calcrete thickness.

RESEARCH FOR SUSTAINABLE GROWTH AND DEVELOPMENT

(Continued)

Micro-mine software suite was used for resource estimation using IDW technique. From this method the two blocks A & B have been estimated to have

a total of 30.5 and 30.1 Mt of HG and LG inferred resources, respectively. The total inferred resource of all blocks for both HG & LG is 60.6 Mt.



RESEARCH FOR SUSTAINABLE GROWTH AND DEVELOPMENT

(Continued)

Identification and Assessment of Shales material

This project commenced in 2020 with a view to encourage Botswana to participate in the mining and construction sector by providing dimension stone as a raw material.

Shales in Botswana are part of Karoo supergroup sediments that unconformably overly older Archaean and Proterozoic rocks. These sediments are poorly exposed and, in some areas are

unconformably overlain by Kalahari beds. Shale outcrops tend to be deeply weathered or affected by post-karoo process of concretization and silicification (Williamson, 1996). In some parts the distribution of the shales is structurally controlled by the north-easterly trending faults and flexures associated to the Karoo dolerite dykes.

Areas that have been assessed are the southern and central parts of country where there are outcrops and are shown in the Map below.

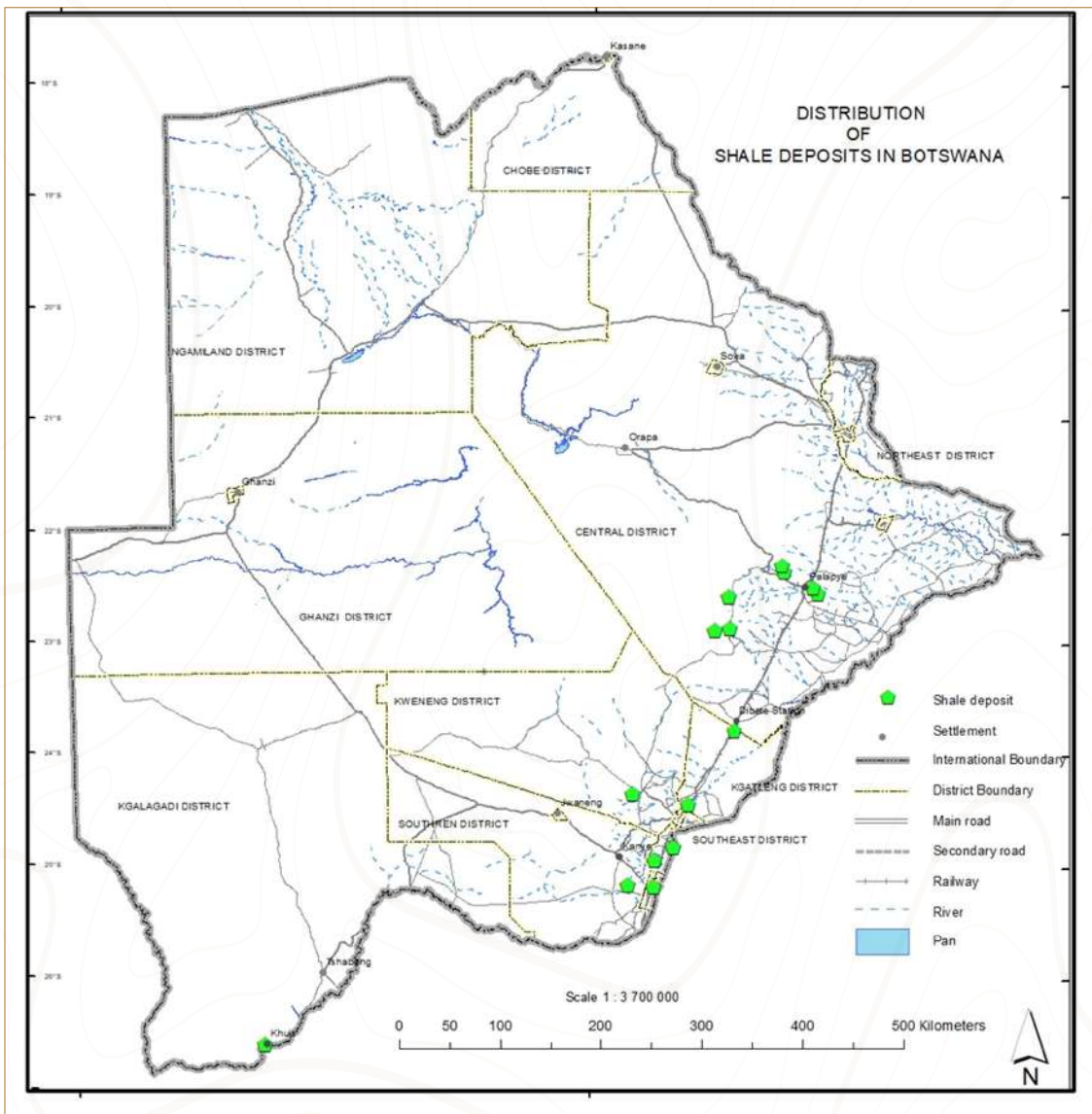


Figure 6: Map showing areas which have been sampled for Shales investigation

RESEARCH FOR SUSTAINABLE GROWTH AND DEVELOPMENT

(Continued)

These sites include Khuis, Palamaukue, Malaka, Palapye, Botepetepe, Mosolotshane, Moiyabana, Dipotsana, Lobatse, Mogobane, Diphawana, Ramotswa and Molepolole. Unfortunately, village encroachment have rendered some of these deposits sterile. Some sites are suitable for paving

but others are too soft to be used for construction purposes. Sites suitable for paving are Molepolole, Dipotsana, Mogobane, Lobatse, Diphawana and Botepetepe whereas Molepolole (2), Ramotswa and Mosolotshane were found unsuitable. Results to confirm suitability for tiling are yet to be completed.



Figure 7: Example of sites not suitable for any use

Interpretation of Aeromagnetic data of Northern Botswana

The project aims to improve information quality and availability with the intention to encourage and stimulate mineral exploration activities, in particular, in the Northern part of Botswana as well as the rest of the country. The Project started in July 2020 and is scheduled to take 18 months.

The detailed project scope comprises primarily the interpretation of existing high-resolution aeromagnetic data covering the northern part of Botswana (Figure 8) together with other

available geoscience information such as gravity, radiometrics, Electromagnetic, remote sensing and borehole data to produce geological, geophysical, hydrogeological and mineral potential maps, and subsequently update the National Geological Map of Botswana, which was last updated in 1997.

This project is undertaken by BGI in partnership with a consortium of companies comprising a Toronto based Canadian company called Paterson, Grant and Watson Limited (PGW) and Gaborone based companies, Water Resources (Pty) Limited (WRC) and Sky Tract (Pty) Limited.

RESEARCH FOR SUSTAINABLE GROWTH AND DEVELOPMENT (Continued)

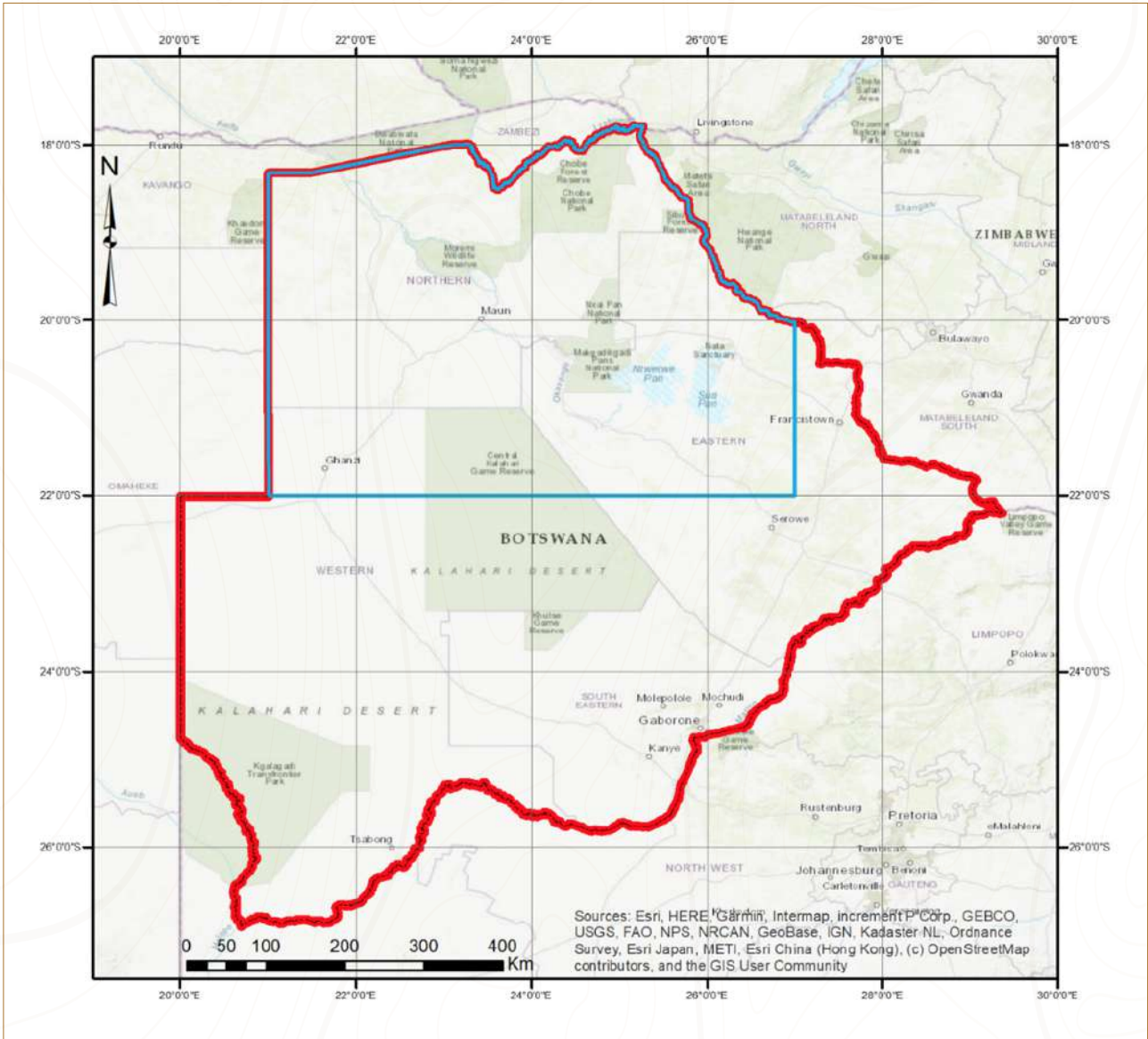


Figure 8: Interpretation of Aeromagnetic data of Northern Botswana

The project will advance geological knowledge by mapping the subsurface geology to unlock mineral potential as well as providing comprehensive data/information to foster private sector investment in

mineral exploration and or exploitation. It will identify basement structures and related hydrological features of importance for the occurrence and movement of groundwater within the project area.

RESEARCH FOR SUSTAINABLE GROWTH AND DEVELOPMENT

(Continued)

The project is on schedule at 46.6% complete with milestones such as planning and data collation, processing of geophysical data, satellite images, preliminary geophysical interpretation detailed 3D inversions of the magnetic and gravity data covering the entire project area.

The overall progress in the interpretation is summarized on (Figure 9 & 10) including massive database of both geophysics, geology, remote sensing and borehole data. These will continue to shape up as more data, field verifications and team interactions continue during the course of the project.

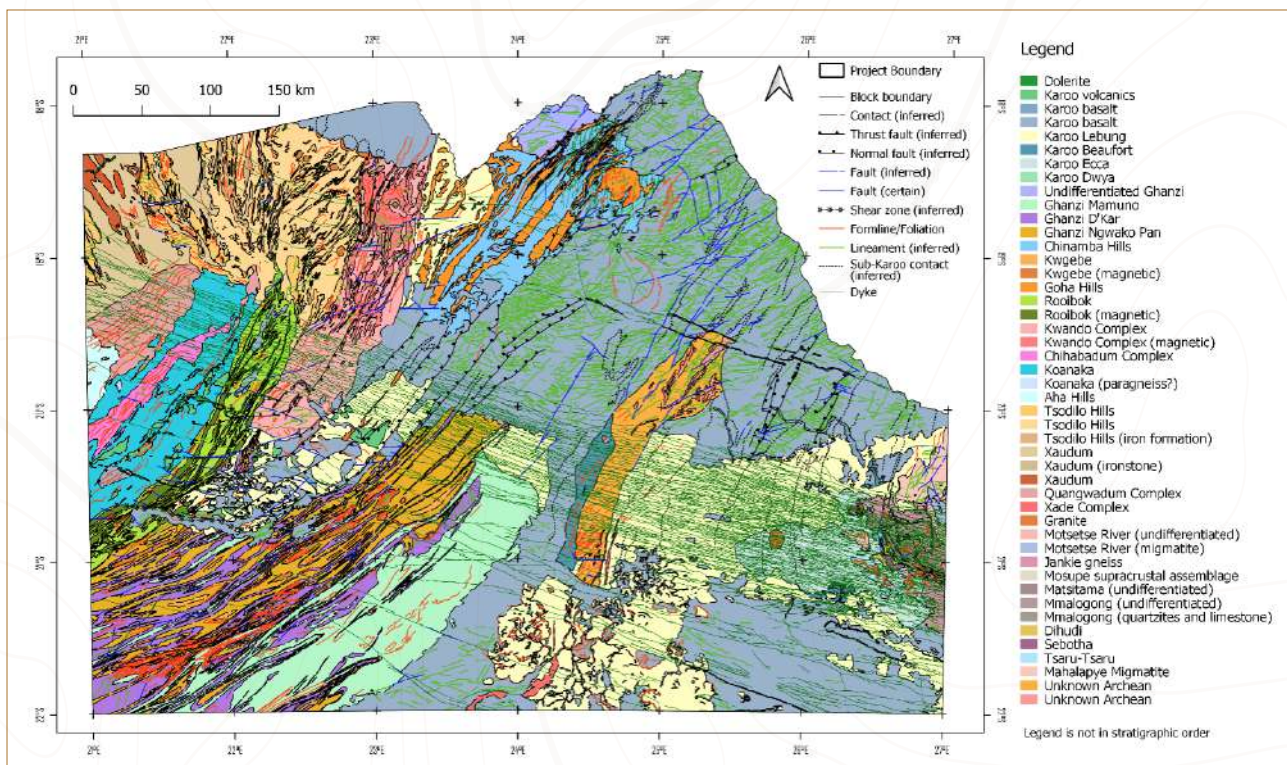


Figure 9: Shows progress in basement interpretation from magnetic and gravity data. Note: this is still at preliminary stage to show progress and field verification is still to be done.

RESEARCH FOR SUSTAINABLE GROWTH AND DEVELOPMENT

(Continued)

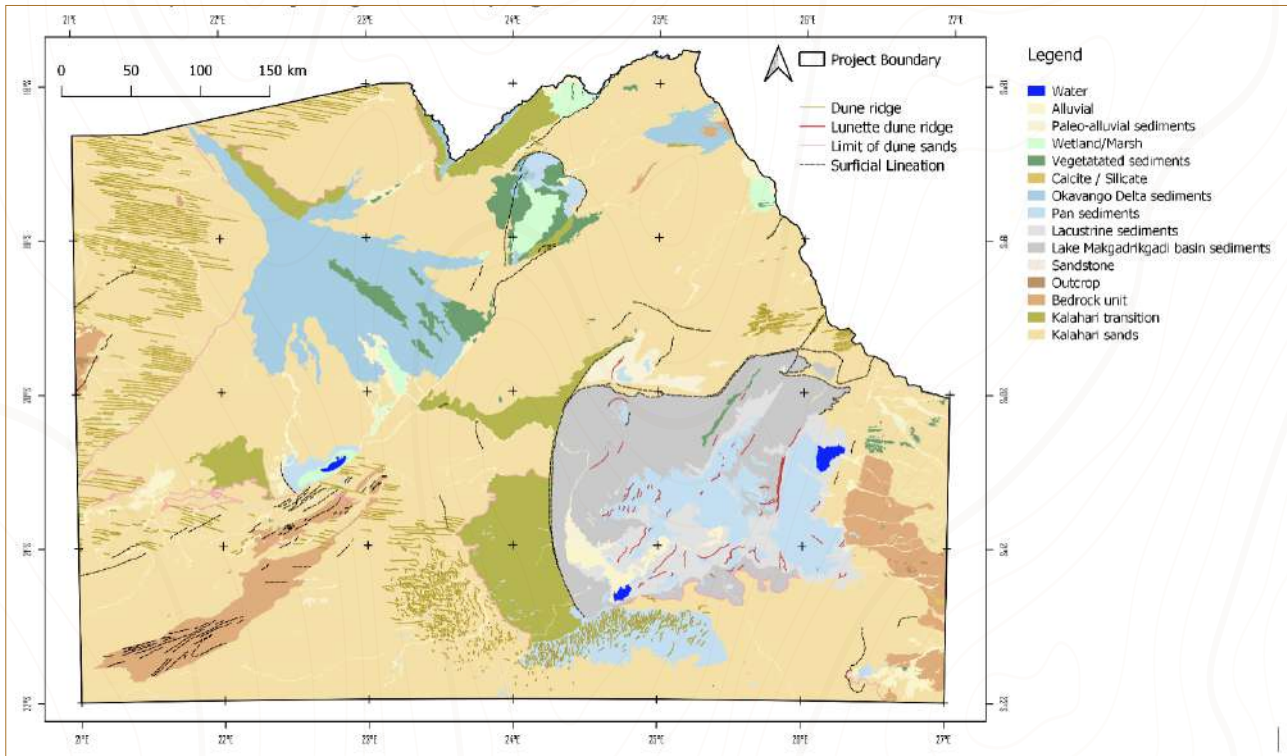


Figure 10: Shows extent of preliminary remote sensing interpretation

Geological Revision Mapping of South-Eastern Botswana

This project entails geological revision of eight (8) Quarter Degree Sheets (QDS) and standardization and formalization of lithostratigraphic units in the South East part of Botswana.

Project execution includes interpretation and integration of existing geological maps (QDS) with other geoscience datasets (e.g. exploration, geophysics, geochemistry, remote sensing, aerial photos, and borehole data) to produce updated seamless geological map of south east Botswana and reports. These will address inconsistencies identified on existing QDS maps by adding structural data, mineral occurrences as well as improving information accessibility through development of databases. The latter will enhance effective and efficient exploration and development of the mineral sector in SE Botswana.

The project is done in collaboration with Japan Oil, Gas and Metals National Corporation JOGMEC who are providing specialized services in the area of remote sensing as well as some hardware (laptops) and associated software. The year (2020/21) marked the first year of project sponsorship by JOGMEC.

Work concentrated on the pilot area which was jointly selected by BGI and JOGMEC in the previous year. The area is made up 4 QDS of Lobatse, Mmathethe, Gaborone and Kanye. The approach was to start with method development where various techniques in remote sensing in particular and geophysics are tried and evaluated to assess their effectiveness in aiding geological mapping. This would eventually be used as a model to address similar mapping problems in the remaining quarter degree sheets.

RESEARCH FOR SUSTAINABLE GROWTH AND DEVELOPMENT

(Continued)

Progress achieved

Remote sensing and geophysics were used to map lithologic units and structure to aid in addressing the discontinuities across QDS boundaries and reduce field work periods. However, the application of these techniques was not very effective in discriminating areas of similar physical properties such as those within the various granites.

Remote sensing was able to distinguish other lithologies such as Waterberg sandstones, volcanics and Blackreef quartzites (Figure 11) that helped in geological mapping as well as addressing some of the inconsistencies.

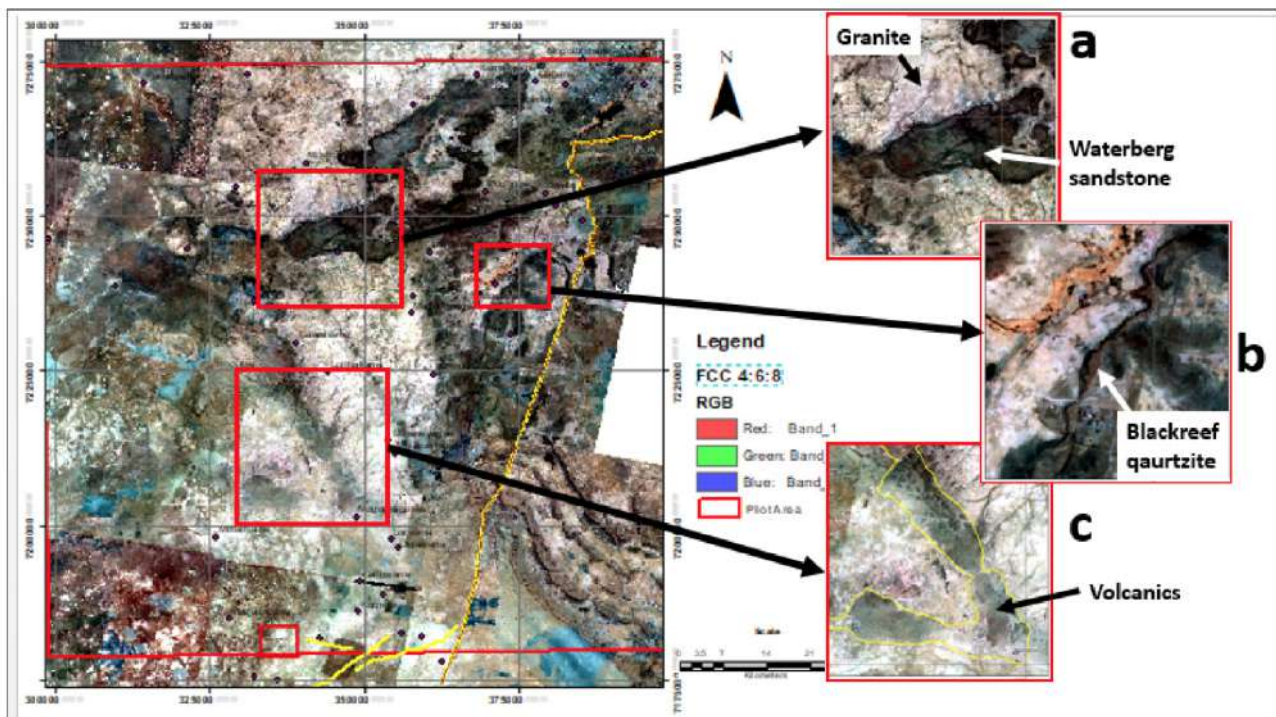


Figure 11: An FCC (bands 4:6:8 as RGB), (a) showing a zoom in depicting colours of Waterberg sandstone against granite, (b) showing the blackreef quartzite and (c) showing the appearance of volcanics.

The teams managed to collect field data to aid in geological mapping as well as refining lithological boundaries/ contacts plus mineral assessment especially in the Gaborone QDS.

Two draft technical reports for Lobatse-Mmathethe, Kanye-Gaborone sheets have been completed. Data

capturing, processing and integration with other existing geoscience data to update the geological maps is ongoing and complete seamless geological map of SE Botswana is expected in the following year.



RESEARCH FOR SUSTAINABLE GROWTH AND DEVELOPMENT

(Continued)

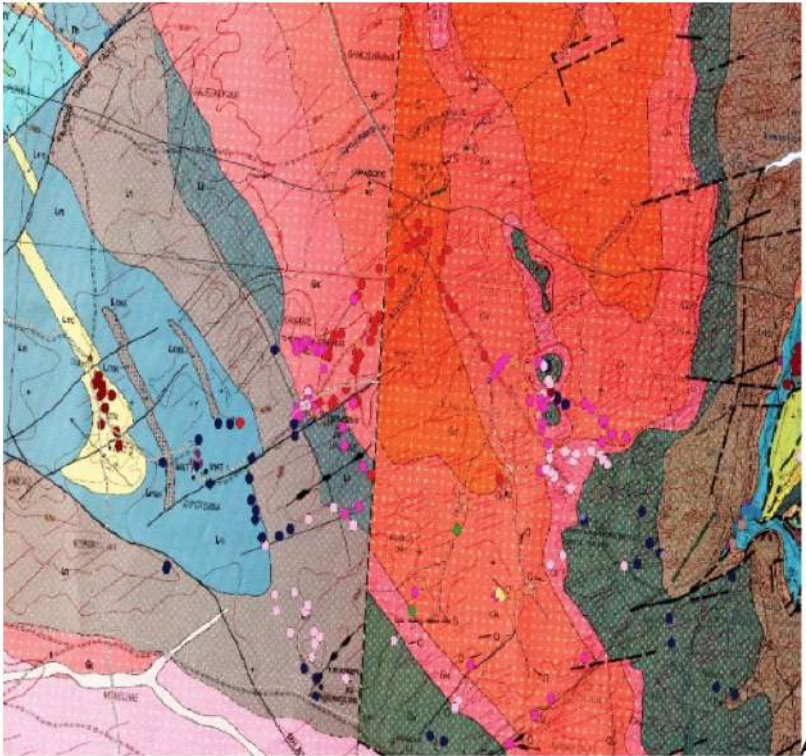
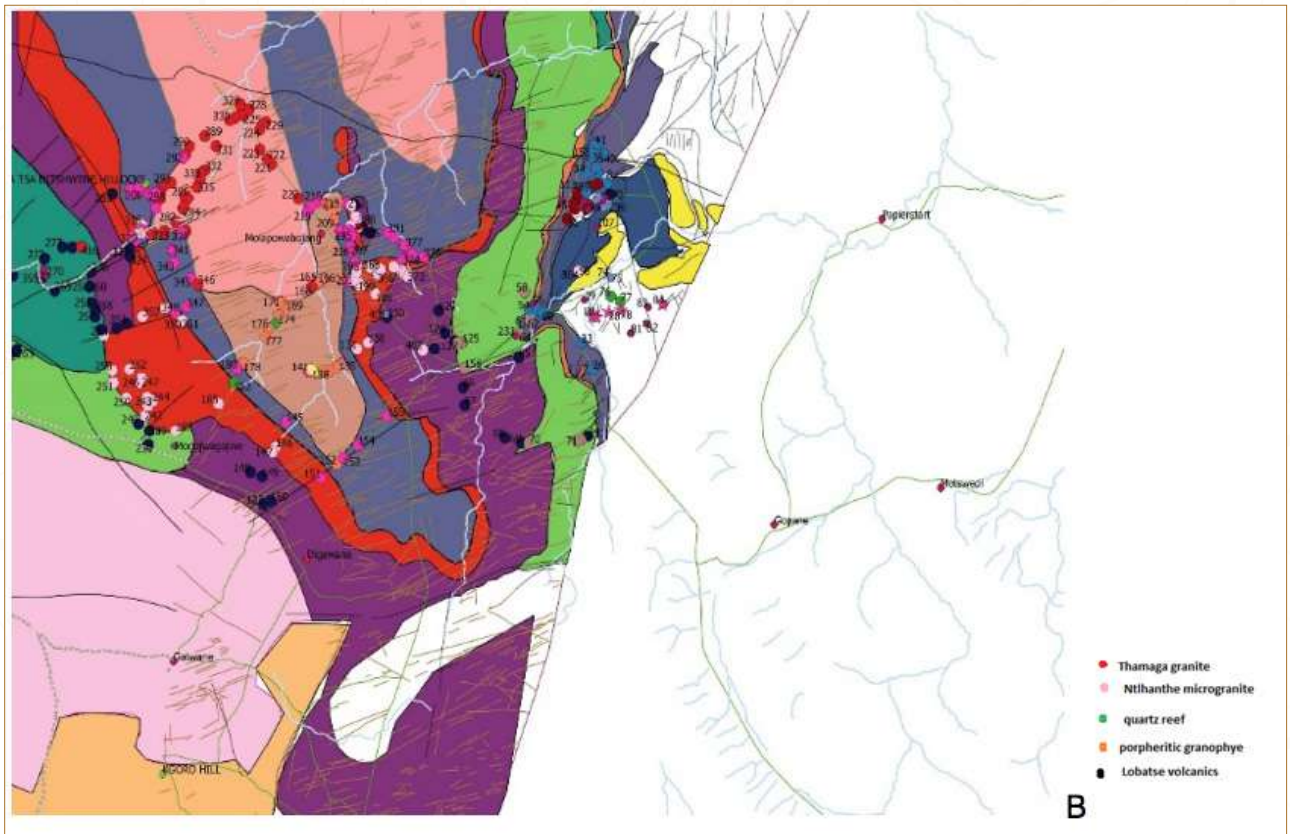


Figure 12 (A and B): A. Existing Mmathethe-Lobatse sheets showing discontinuities and colour variations. B. New preliminary Interpretation of geology based on remote sensing interpretation and collected field data (still not be refined to cartographic standard).



RESEARCH FOR SUSTAINABLE GROWTH AND DEVELOPMENT

(Continued)

National Seismicity Monitoring

The Institute continued to operate a network of 21 digital, three-component, broadband, telemetry-enabled and autonomously recording seismographic stations, Botswana Seismological Network (BSN) and Global Telemetered Seismograph Network (GTSN), distributed across the country. These seismic stations detect and locate earthquakes in Botswana and the surrounding area on a continuous and long-term basis.

The main output of BSN deployment is the publication of biennial **Botswana Seismological Network Bulletin Series** containing locations,

magnitudes and phase data for all earthquakes (local, regional and teleseismic events) detected and located by the BSN stations during the reporting period. During the reporting year, the biennial H1 (April 2020–September 2020 and H2 (October 2020–March 2021) bulletins were produced, as well as the updated map of the seismicity of Botswana and surrounding areas (Figure 13).

Although the level of local seismicity in Botswana is relatively low compared to seismically active regions of the world, the country is nevertheless characterised by a moderate rate of earthquake activity.

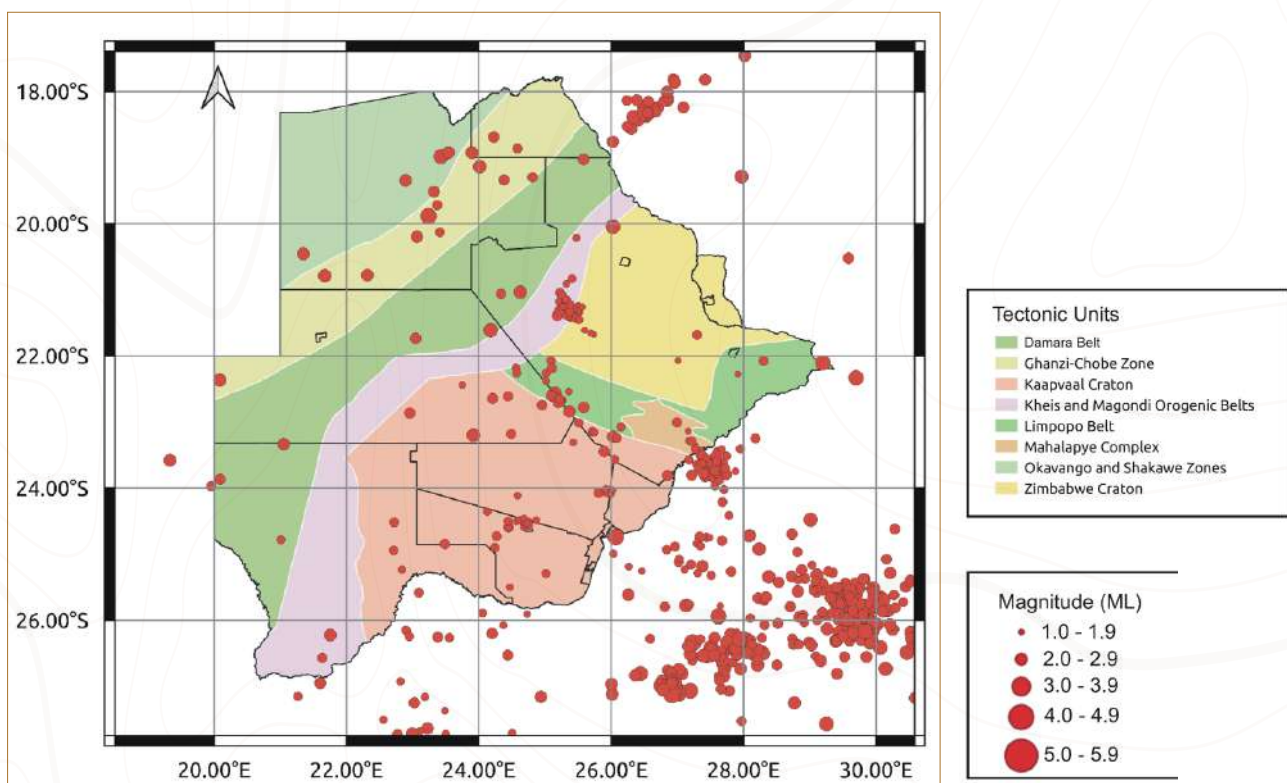


Figure 13: Map showing the distribution of seismic events in Botswana and the surrounding area recorded by BSN stations (April 2020 –March 2021).

RESEARCH FOR SUSTAINABLE GROWTH AND DEVELOPMENT

(Continued)

The seismicity information provides an input dataset to assess the potential for future damaging earthquakes, and contribute in the seismic disaster risk reduction. The availability of high-quality data from the BSN project affords an opportunity for a variety of seismological research endeavours including characterisation of regional and micro-zoned seismotectonics and seismic hazard levels, as well as detailed imaging of the earth structure under Botswana.

On the other hand, GTSN is an international seismological station hosted in Botswana, coded LBTB, located at Magotlhwane village (near Lobatse) and it is one of the 120 auxiliary seismic stations of the International Monitoring System (IMS) deployed within the framework of the Comprehensive Nuclear-Test-Ban Treaty (CTBT). The IMS global seismic observatories are deployed to monitor

international compliance with the Comprehensive Nuclear-Test-Ban Treaty (CTBT), which bans all nuclear explosions on Earth. These observatories provide seismic forensic data for the verification regime of the CTBT to detect any nuclear explosion conducted anywhere on Earth.

Selebi-Phikwe Microseismic Monitoring

Selebi-Phikwe area (SPA) has been experiencing low-magnitude-range spasms of micro-seismic activity since the last quarter 2018. Although the effects of the micro-tremors have been limited to a relatively small part of Selebi-Phikwe, the seismicity caused general alarm among the residents necessitating intervention by BGI.

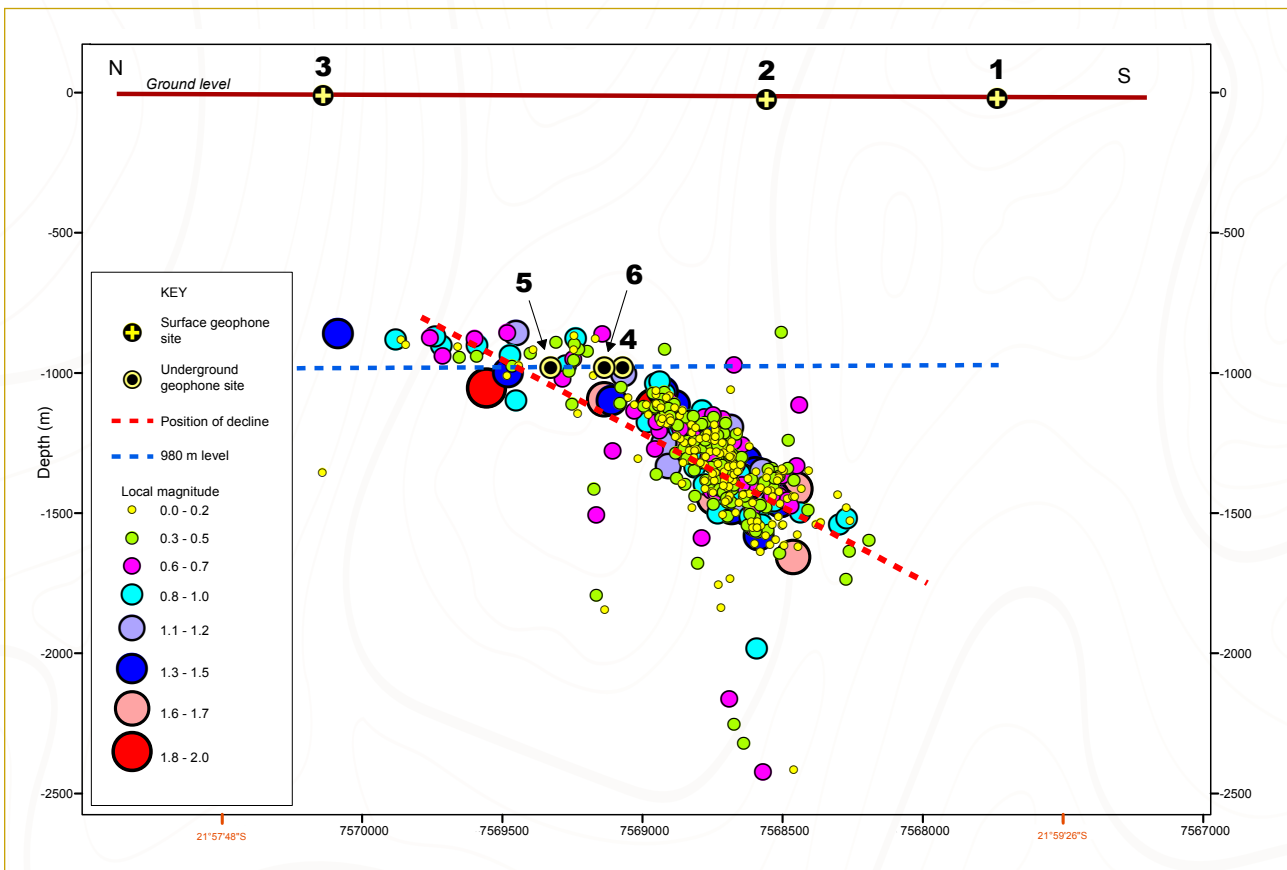


Figure 14: Section view of Selebi Phikwe seismic events of Magnitude Greater than Zero.

RESEARCH FOR SUSTAINABLE GROWTH AND DEVELOPMENT

(Continued)

The Institute undertook to monitor the micro-seismicity through deployment of a network of seismic sensors in order to characterise the events in terms of magnitude, distribution, time and frequency. Results of this study identified the South East Extension Shaft of BCL as the source of the micro-tremors attributable to shaft flooding.

In partnership with the Institute of Mine Seismology (IMS) BGI has undertaken to conduct long-term seismic monitoring in the SPA region and stations are relaying data to IMS on a real time basis. This enables immediate processing and prompt response.

Geotechnical Investigations - Ramotswa

Malete Sub-Landboard engaged Botswana Geoscience Institute (BGI) to undertake geotechnical investigation of three (3) villages (Ramotswa, Boatle and Otse), earmarked for development. This project commenced in June 2020 and was completed in January 2021.

The total areal coverage of the project site is 362 hectares with the objective to assess land suitability for development.

Seventy six percent (76 %) of the area at Boatle was found to be covered by clays and sandy-clay alluvium deposits which are least favourable to development due to the presence of high plasticity and poor founding material. Further away from the river flood plains, the area is covered by coarse colluvium underlain by highly weathered mudstones, constituting 23.7 % of land area considered for development and is mostly covered by collapsible

soils. The latter area was classified as Intermediate. In Ramotswa, the proposed area for development (139 hectares) is located in the southern part of the village. Up to 70% of this area was found to be covered by thick alluvial desiccated clay deposits to depths of 2.3 m. These are associated with small north east trending Notwane river tributaries.

The material has high percentage of fines ranging between 54% to 78% and medium to high plasticity values ranging between 17.4 and 26%. As indicated by the surface desiccation cracks in the field, the clay horizon exhibits high shrinkage values ranging between 7 to 13.3%. Due to the presence of these heaving clays in a generally poorly drained area, the area was classified as Least Favourable. The area that is considered habitable is a relatively small one that covers only 24 ha (30 % of the entire area). This area is classified as intermediate (restricted to the boundaries of the area), and Most Favourable (characterised by shallow well-developed ferricrete).

The Otse project site is located on a flat plain at the foot of Maladiepe hill with the Nywane River flood plain forming the eastern boundary. This proposed development area (study area) is 12ha. Up to 91.6% of the area is covered by fine to medium grained colluvium underlain by weakly developed ferricrete at variable depths ranging between 0.4 and 2.6m. This material, mostly classified as G10 with collapsible fabric, would require soil improvement to minimise any potential differential settlement. Treatment would require excavation of transported colluvium and replacement with competent material (G5) to depths of 1.5 * width of footing. The area was hence classified as Intermediate. A small portion (8.3%) is covered by Nywane river alluvial clays to depths of 1.85m. This area is the Least Favourable due to the abundance of clays.

RESEARCH FOR SUSTAINABLE GROWTH AND DEVELOPMENT (Continued)

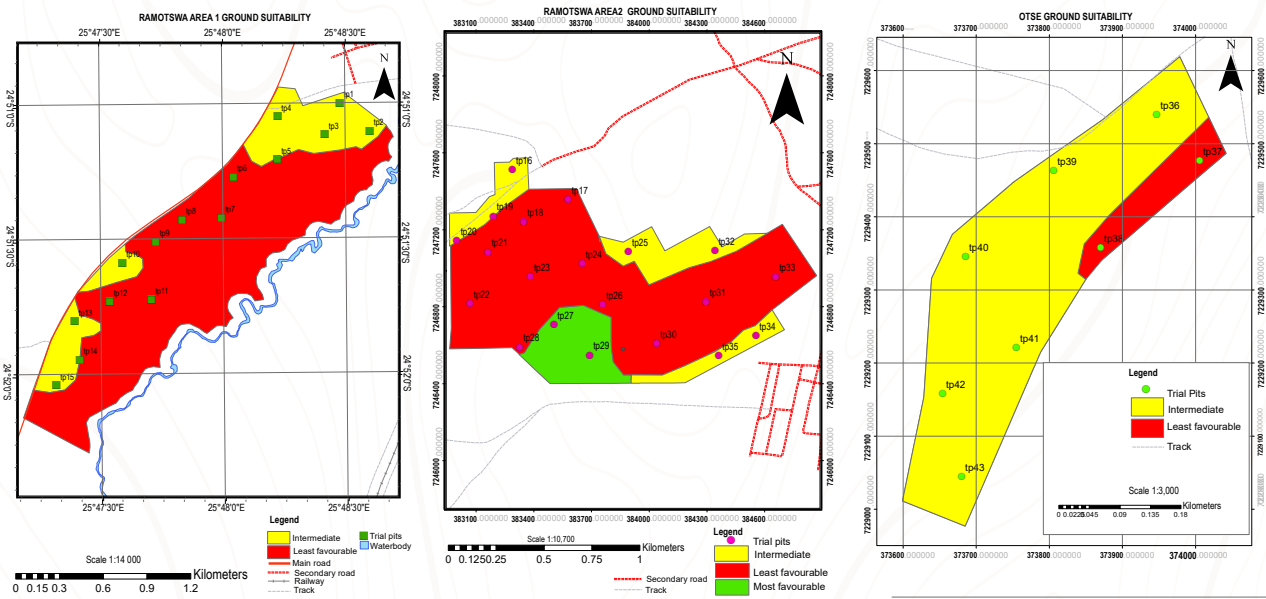


Figure 15: Suitability Maps for Area 1 (Boatle), Area 2 (Ramotswa), Area 3 (Otse)

Geotechnical Mapping - Gaborone

The Institute is undertaking geotechnical mapping of the Gaborone urban area. Mapping is conducted on both the built-up and future expansion areas.

The project commenced at the beginning of the 2020/21 financial year but could not be completed by the end of the year owing to logistical constraints with respect to delayed baseline data acquisition from key stakeholders.

The aim of the project is to identify constraints with impact on development with respect to problematic soils, steep slopes, areas susceptible to

seepage, difficulty of ground to excavation and any other relevant geohazards.

Maps produced at a scale of 1: 50000 will inform current and future developments by a wide spectrum of stakeholders both in government and private sector. The Gaborone city administrative boundary covers approximately 259 square kilometres in area (25922 Ha). It is bounded by Tlokweng village in the east, Mogoditshane and Kopong in Kweneng District to the west and north respectively, whilst abutting the Maletle tribal area in the south (Figure 16).

RESEARCH FOR SUSTAINABLE GROWTH AND DEVELOPMENT

(Continued)

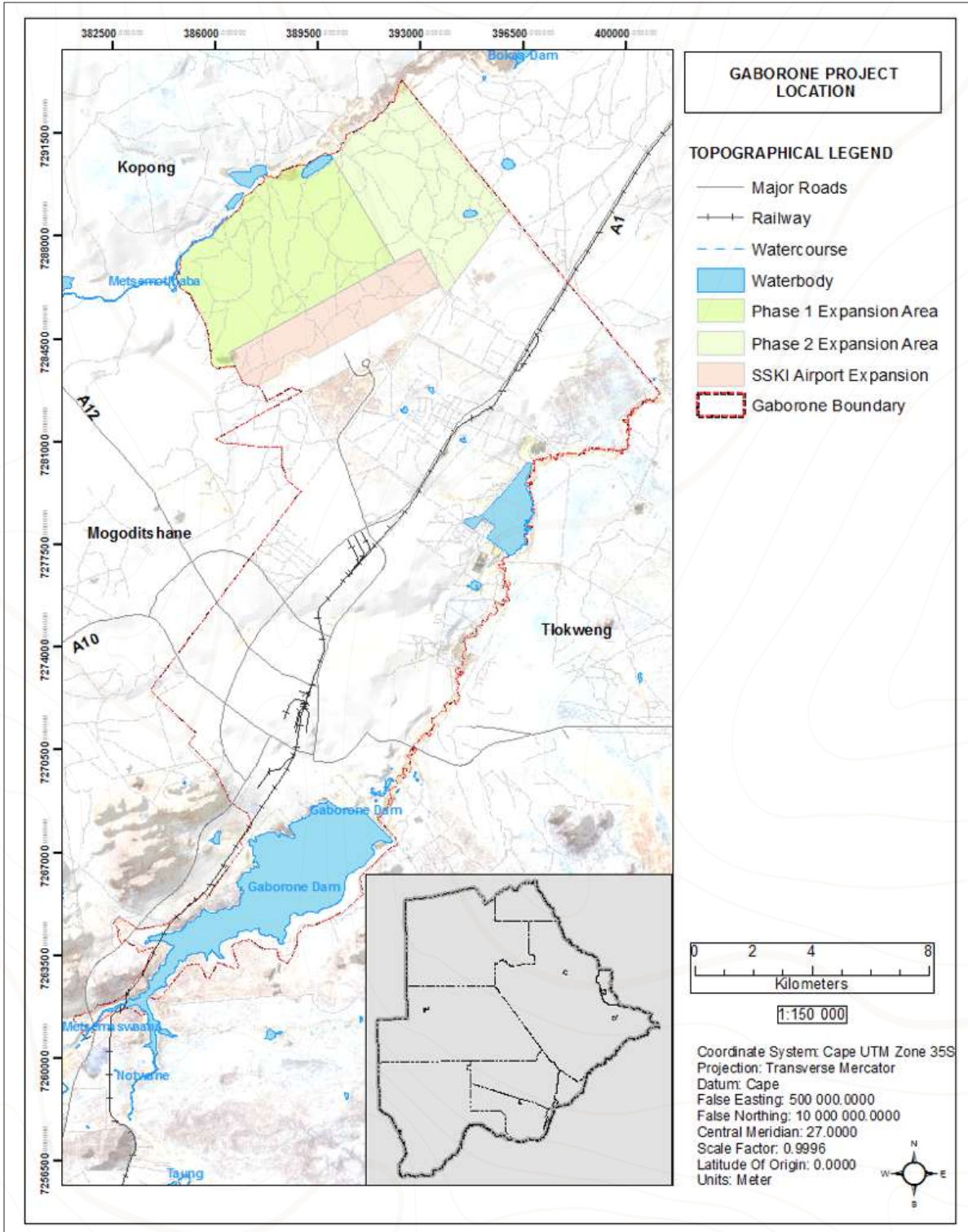


Figure 16: Geotechnical Mapping- Gaborone Project Study Area

Since most of Gaborone is developed, the effective approach is to collect and collate already existing

data and subject it to quality control and assurance, and asses data paucity zones. Once the coverage

RESEARCH FOR SUSTAINABLE GROWTH AND DEVELOPMENT

(Continued)

and gaps were established, field work was executed to collect data to close identified gaps.

Investigations were conducted in identified open spaces and expansion areas, with reference to the Guidelines for Urban Engineering Geological Investigations by Van Roy et al, (2000), and classified in accordance with Geotechnical Classification System for Township Development by Patridge et al., (1993).

By the end of the year, the project had not been completed as laboratory testing was still to be carried out, and as such it was extended to the next financial year.

Hydrogeological Assessments

Hydrogeological assessments focussed on the BCL Ltd (In Liquidation) to monitor the impact of water discharged from the mine into the ecosystem, in particular groundwater pollution. The project was carried out as an audit for environmental compliance purposes. BCL mine which is under care and maintenance continues to discharge water into the environment from Mine shafts to control flooding of the mines.

Hydrogeological assessments of the study area were conducted on a monthly basis by monitoring of groundwater levels and sampling for chemical analyses (Figure 17). Water samples analysed came from sixteen (16) monitoring boreholes and results were compared with water collected from the mine.



Figure 17: Hydrochemical sampling and field water quality analysis

Key findings from the study showed overall groundwater levels in boreholes increased by as much as 0.92 m. Shallow water levels were observed in boreholes that are in the vicinity of the tailings dam due to constant seepage from the dam, whilst water level increases were observed further away from the dam. General groundwater movement is towards the north-east of the mine to the Motloutse river. Thus, the Motloutse river is the main discharge point of BCL mine water. There exist no discernible groundwater flow barriers in the study area that could impede groundwater flow towards Motloutse river, making the river system highly susceptible to pollution by mine waters and furthermore, currently there are no pollution controls put in place by the mine.

Nickel and copper concentrations were only above the standard at the tailing dam, and areas immediately downstream of the tailings dam. It was noted that high values of nickel in some monitoring boreholes coincides with the rainy season, and this observation is attributed to run-off from the mine. Apart from the tailings dam, groundwater pollution in the study area is exacerbated by run-off water that comes from the BCL plant area where the soil is inundated with heavy metals, in particular copper and nickel (Figure 18). This particularly happens during the rainy season and the pollutants are transported to the downstream of the mine and eventually to the Motloutse river system as well as seeping into the ground.

RESEARCH FOR SUSTAINABLE GROWTH AND DEVELOPMENT

(Continued)



Figure 18: Treated water released to the environment from BCL mine

Although the study is still on-going, it is evident that the BCL mine waters are the reason for elevated concentrations of elements in groundwater and in the Motloutse river courses. However, this effect is less pronounced with increased distance away from the mine. Groundwater levels have been used to determine the pollutant direction as groundwater flow generally tends to follow topography. The

tailings dam is the main source of pollutants. Elevated values of iron and Cadmium were found in the Motloutse river. These elements are associated with the BCL mine ore. A lot of effort is made by the mine to neutralise (and precipitate metals) from the mine waters with lime before the water is pumped to the tailings dam, but sometimes this intervention is not sufficient.

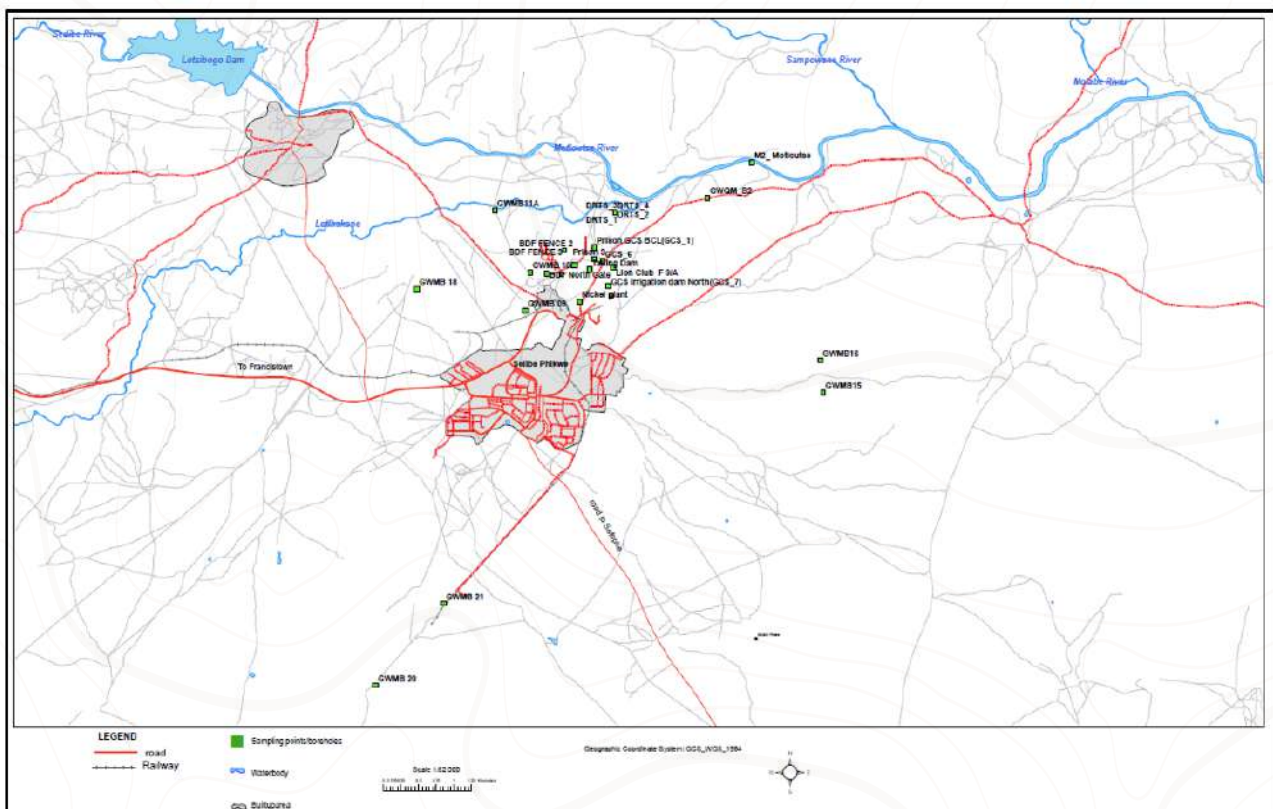


Figure 19: Location of study area showing borehole sampling points



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DATA/INFORMATION SERVICES AND DIGITAL INFRASTRUCTURES



DATA/INFORMATION SERVICES AND DIGITAL INFRASTRUCTURES

BGI recognises that, technology is a critical enabler for access to information, support and facilitation of collaborative work and enhances efficiency and quality of research services.

With this understanding, the institute has pursued a number of projects and initiatives to collate, package, enhance and avail Botswana geoscience information digitally and online. This is in pursuit of BGI strategic goal by which the Institute aims to achieve by 2023. These initiatives are pursued under functional of Information delivery.

Borehole Information System (BIS) Portal.

Through this portal, known as BoreHive and found at <http://www.bh.bgi.org.bw/>, the Institute avails all Borehole information online to the general public. It also allows the search for Water boreholes anywhere in the country, access crucial information about the boreholes like the depth, water strike, yield and relative borehole logs very useful when exploring for water in your area. The portal also provides coordinates that narrows boreholes to specific settlements and pin-point location plotted on Google Maps.

The information contained in this database has been acquired from various sources including reports and records from prospecting license holding companies, mining companies, farmers,

Department of Water and Sanitation as well as Botswana Geoscience Institute. As the information is from independent sources, it has been captured as submitted.

Botswana Geoscience Data Portal (GDP)

Botswana Geoscience Data Portal (GDP) facilitates management and dissemination of geoscientific data to all stakeholders, primarily the exploration companies, research institutions and individuals.

The GDP is a collaborative project between BGI and Geosoft Europe Ltd. The partnership started with a pilot Geoscience Portal launched in 2016 which indicated massive interest in BGI data packages from the United States of America and the local community, though the data packages were only for the Ngaminland area.

National Integrated Geoscience Information system (NIGIS)

National Integrated Geoscience Information system (NIGIS) hosts multidisciplinary geoscience data comprising of among others, BGI field projects



Figure 20: Borehole drilling

DATA/INFORMATION SERVICES AND DIGITAL INFRASTRUCTURES

(Continued)

data, prospecting license data, water boreholes, prospecting companies, prospecting locations, core and sample data. The new Portal will offer access to nation-wide multidisciplinary geoscience data viz; Geophysics, Geology, Drill holes, Geochemical, Publications, GIS data, reports and documents.

Information and Technology

The refurbishment of information and technology infrastructure and upgrading of operating systems was undertaken to advance efficiency, productivity and security. Infrastructure renovation was also necessary to fulfil some of the long-term strategic imperatives such as building a functional Data Centre and processes automation.

The Data Centre project comprised of four (4) components namely; i) Server upgrade Infrastructure, ii) Disaster Recovery Site, iii) Network upgrade and iv) Partitioning and Electrical Works. Upgrading of the Server Infrastructure took preference and included software upgrading to the latest industry leading, innovative, robust and cost-effective technology and consolidating servers with storage. The server & storage technology will enable the organization to host large size data for the next five (5) years.

Automating business processes aimed at achieving cost-efficient, error-proof, time saving on more valuable business tasks. An Enterprise Resource Planning (ERP) system was customized towards handling automated employee leave application

processes. The Institute also deployed Microsoft office 365 which permits data to be accessed anywhere with improved cloud storage. It also enabled centralization of various systems and improve communication.

Geoscience data and Collections

The institute has an impressive amount of geoscience data and collections that resides in various repositories. These collections are the foundation of basic and applied geoscience research and education, and underpin industry programs to discover and develop domestic natural resources to fulfil the nation’s mineral and energy requirements. The Institute has amassed an enormous wealth of data and collections, most of which remains potentially useful.

Major milestone in consolidating and some of the collections was the reconciliation of borehole data with prospecting license reports during the uploading data into the Borehole system (www.bh.bgi.org.bw) and the Online Library system (www.library.bgi.org.bw). These two systems have assured improved access to access to geoscience data and collections.

In addition, 63% of analogue data has been scanned and digitized. The data accessible online included more than 5000 reports from independent consultants Prospecting License and BGI Internal Reports.

Table 5: Online Library Data (www.library.bgi.org.bw)

Media Type	Accessible Online
Geological Reports - Consultants	2007
Geological Reports - Internal	1755
Geological Reports - BGI Publications	70
Open Prospecting Licence Reports	690
Books	217
Aerial Photographs	2





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**LABORATORY
SERVICES**



LABORATORY SERVICES

BGI Laboratories provide services to BGI Projects, Government, General Public and other private entities. The testing undertaken consists of physical and chemical tests on geological raw materials such as soil, rocks, ores and water.

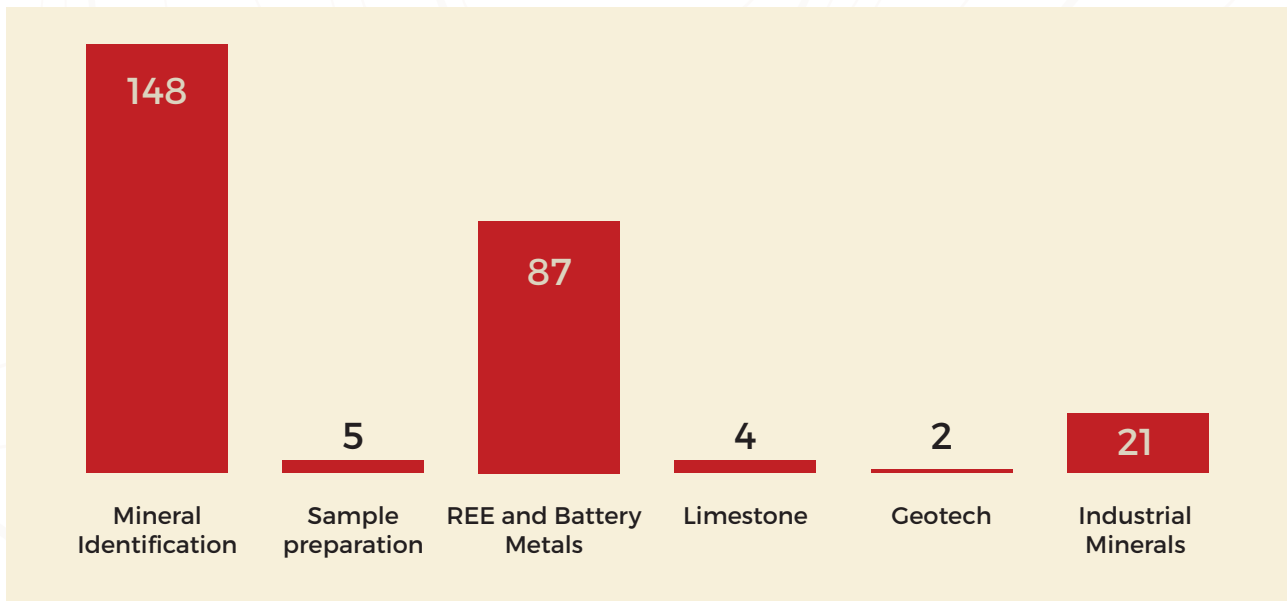


Figure 21: Analytical Service to internal customers

In the financial year 2020/21, the Laboratories provided services for various BGI projects and external customers. The following are the BGI projects that the Laboratory participated in:

- Limestone project** – The preparation was conducted at Mineral Dressing Laboratory and samples were submitted to Chemistry Laboratory for Geochemical analysis for major oxides by X-Ray Fluorescence.
- Geotechnical project (Ramotswa)** – Samples received from Ramotswa project were analysed for Atterberg Limits.
- Mineral Identification** – 722 samples were received from internal projects and were analysed for Mineral identification using X-Ray Diffraction (XRD) Phillips PRO.
- REE and Battery Metals Project** – 92 samples were received from Shoshong project. Sample preparation and Mineral Identification were carried out at Mineral Dressing Laboratory and chemical analysis were conducted at Chemistry Laboratory.
- Industrial Minerals Project** – 21 samples for aggregates testing. Samples were analysed for Aggregate Impact Value (AIV), Los Angeles Abrasion Value (LAAB), Water Absorption and Specific Gravity.

LABORATORY SERVICES *(Continued)*

The Laboratory also provided service to external customers in the following areas:

- Identification of suspected gold and diamonds.**
 This service is offered to Botswana Police Service. 722 were of suspected diamonds while 2 were of suspected gold.
- Construction aggregates** – The laboratory received samples analysed for AIV, LAAV, water absorption and specific gravity.
- Grading** – The Laboratory also received a request for Particle Size Distribution on 1 sample.
- Sample preparation** – The Laboratory received 5 samples for preparation only (Crushing, milling and pulverization).
- Water Analysis:** A total of 364 samples were analysed for heavy metals and major constituents for 9 customers
- Geochemical Analysis:** The laboratory analysed a total of 133 samples for major oxides and 52 samples for single elements for 7 customers.

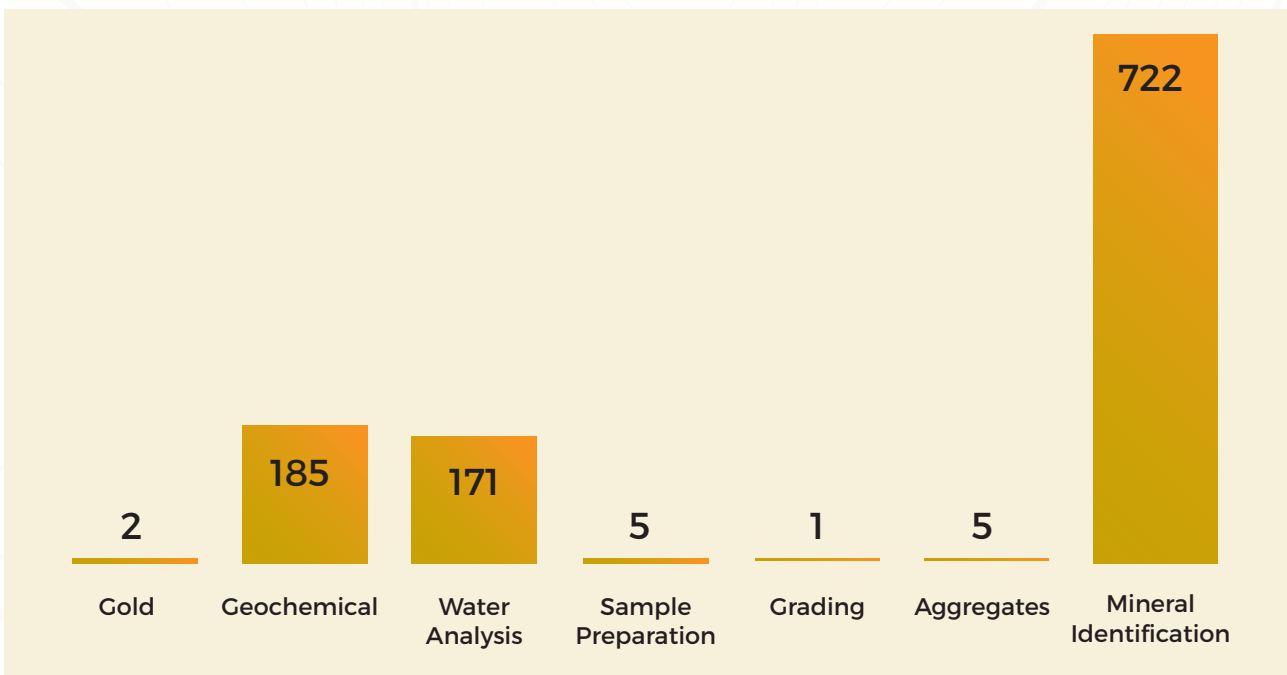


Figure 22: Analytical Service to external customers

Laboratory Information Management System (LIMS) and ISO/IEC 17025

The Laboratory Information Management System (LIMS) is a globally recognized and widely used application software designed to improve laboratory productivity and efficiency by keeping track of data associated with samples, experiments, laboratory workflows and instruments.

LABORATORY SERVICES *(Continued)*

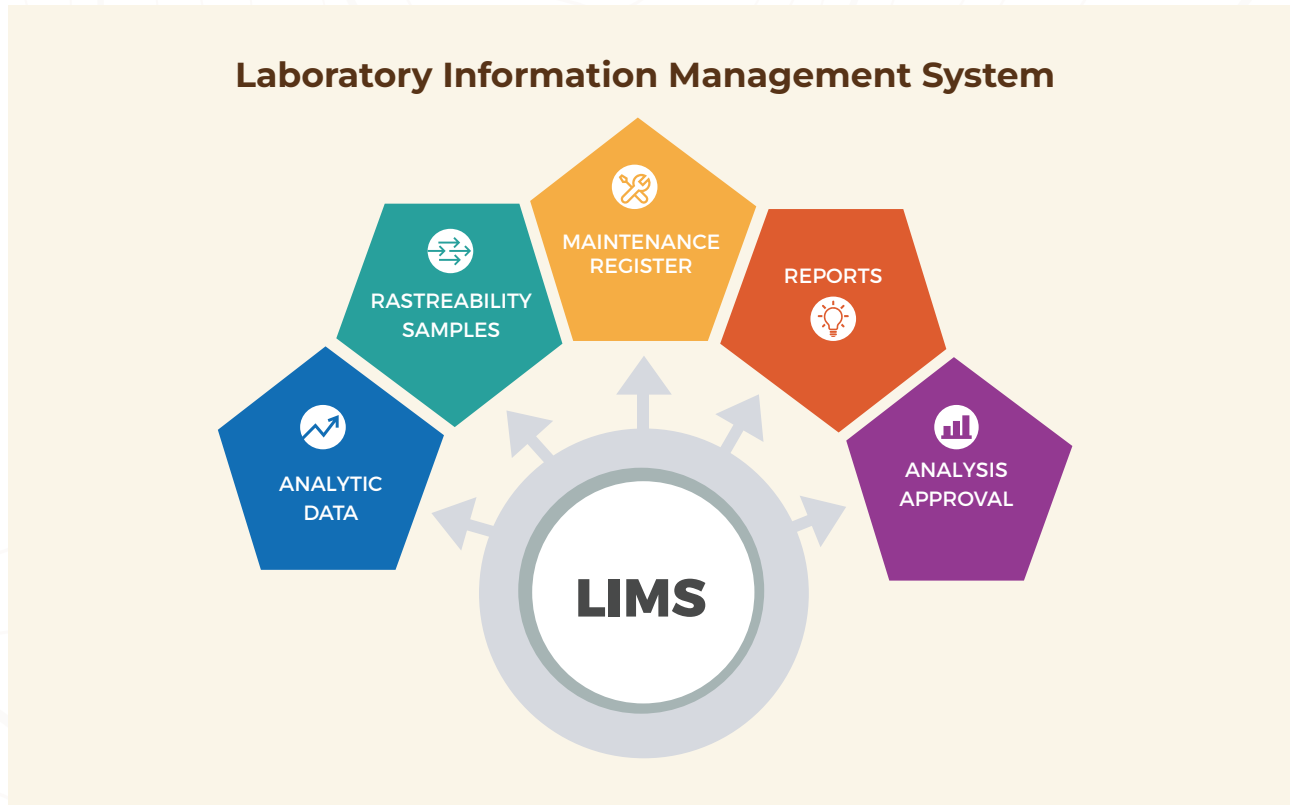


Figure 23: Process of *Laboratory Information Management System*

BGI laboratories are implementing LIMS to monitor its technical and management processes. The system is the key driver in enforcing the laboratory's Quality Control (QC) and Quality Assurance (QA) procedures, the functionality needed to satisfy accreditation requirements as per ISO 17025.

This is a collaborative effort between BGI and Labware Africa in an effort to attain high-level efficiency and effectiveness in laboratory services and operations.

The application software is key in driving the quality assurance and quality control and cornerstone to adherence to ISO 17025 accreditation and eventual attainment of the Southern African Development Community Accreditation Services (SADCAS) accreditation. LIMS is also instrumental in aggregating data for research or business intelligence purposes and ensure laboratory

operations are compliant with various standards and regulations.

The laboratory is implementing ISO/IEC 17025 standard which is a general requirement for the competence of testing and calibration laboratories in order to earn international recognition.

Proficiency Testing

The laboratories participated in the following proficiency testing schemes offered at different levels for it to monitor, assure quality of the results as well as checking competence of its personnel

- SADC MET Water Proficiency Testing Scheme - **(Regional)**
- International Geochemistry Proficiency Testing Scheme - U.K - **(International)**
- Botswana Bureau of Standards (BOBS) - **(Local)**

LABORATORY SERVICES *(Continued)*

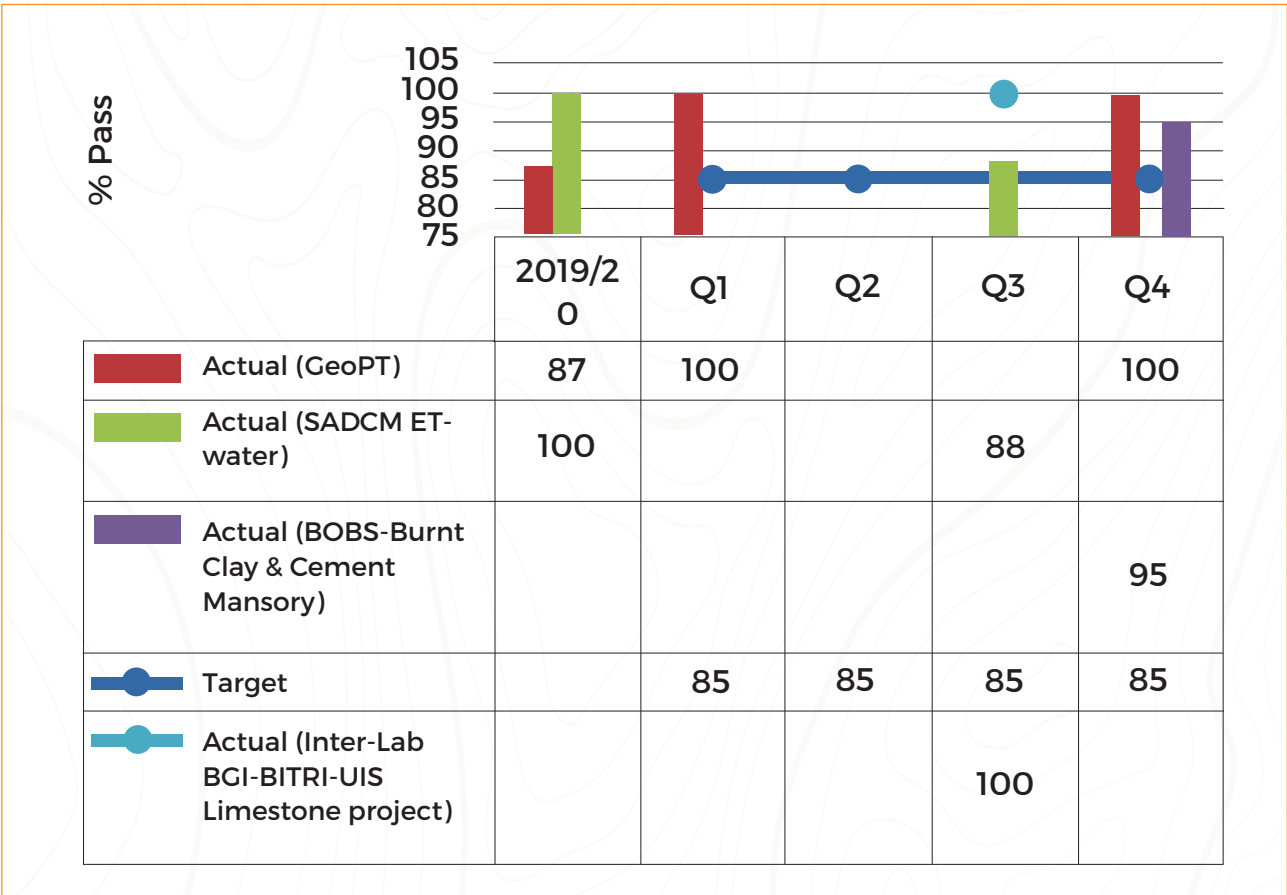


Figure 24: % of Parameters Passing in Proficiency Testing (PT) / Inter-Laboratory comparison

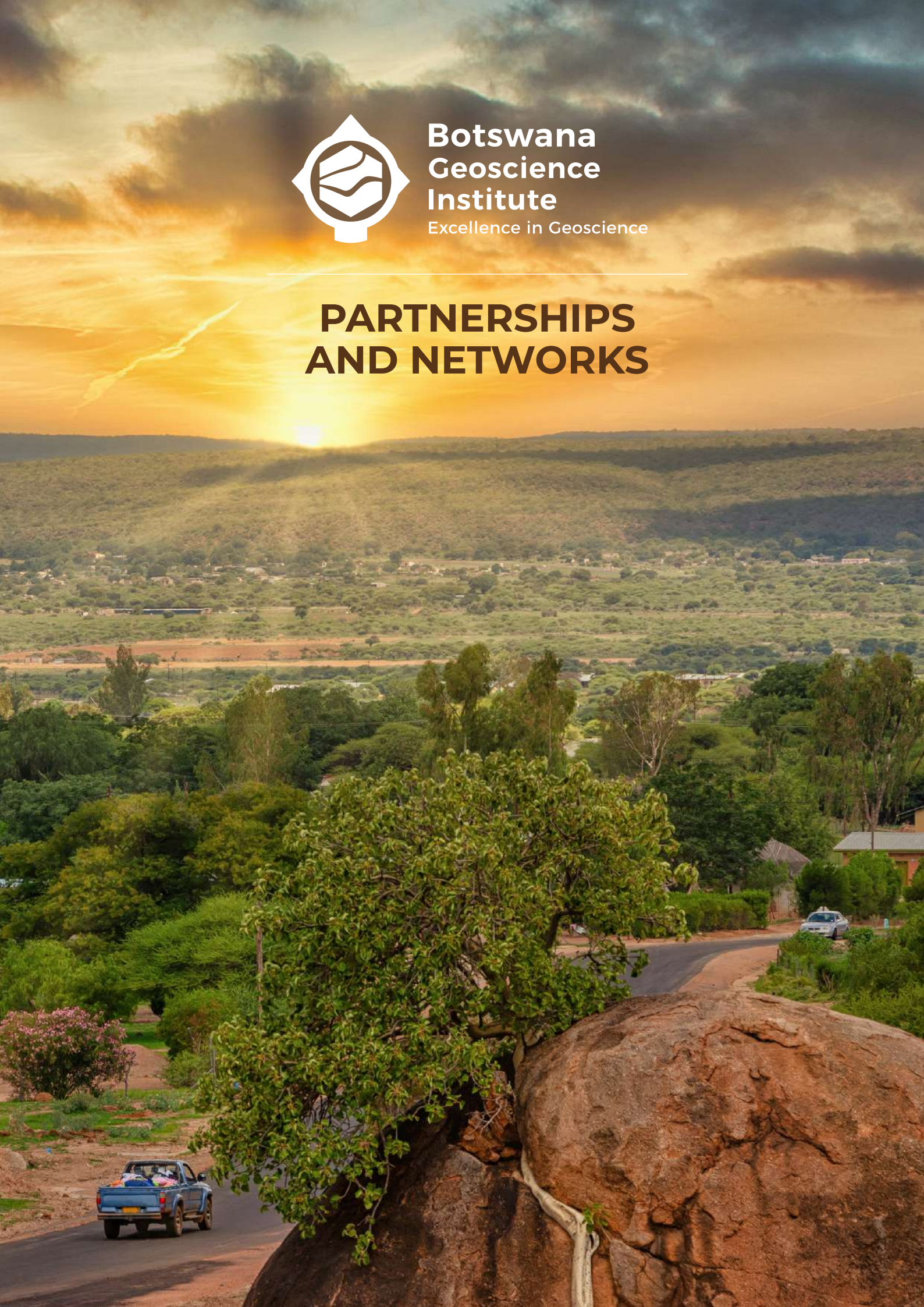






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PARTNERSHIPS AND NETWORKS



PARTNERSHIP AND NETWORKS

BGI collaborates with a number of organisations within the sphere of geoscience, academia and others with similar and related objectives. The Institute aims to expand these partnerships to create economic value for its wider stakeholders network to enhance research and access to data.

BGI and Bell Geospace

BGI's partnership with Bell Geospace signed an MoU On 15th September 2020 to undertake a project that will use existing Full Tensor Gradiometry (FTG) data collected by Debswana in 2006 in the Jwaneng area for purposes of developing mineral prospectivity map (MPM) of the Molopo Farms area. Initial results have been communicated at the Prospectors and Developers Association of Canada (PDAC) convention and Mining Indaba.

BGI, JOGMEC and MoTE

Following the signing of MoA between BGI and JOGMEC in February 2020 at the Indaba Mining Conference, JOGMEC extended its support by pledging to fund BGI projects for the next 3 years, starting with US\$85,000.00 for financial year (2020/21). This figure was revised down to US\$65,000.00 due to the effect of Covid-19 pandemic in Japan. The funding was successfully used to complete mapping four Quarter Degree Sheets in SE Botswana. Access to funding was achieved through sponsorship of projects by the Ministry of Tertiary Education, Research, Science and Technology (MoTE) and JOGMEC to the tune of BWP 2.6 million over two years and BWP 1.95 million over 3 years, respectively.

BGI and JOGMEC Corporation in the BSRC

During 2020/21, BGI and JOGMEC also continued to host the annual JOGMEC funded SADC activities that include the Remote Sensing Seminar, Remote

Sensing Competition and Corporative Surveys. Through the seminar, BGI and SADC geoscientists gain practical training and sharpen their skills in remote sensing.

BGI, BIUST and the University of Zimbabwe

BGI is a partner in the coal beneficiation research study with BIUST and the University of Zimbabwe (UZ). The project is sponsored through Botswana Innovation Hub and Research Council of Zimbabwe by Science Granting Councils Initiative (SGCI) of Canada.

BGI African Minerals Development Centre

The Institute participated in the African Mining Vision Action Plan Review Consultative Forum. This was organised by the African Union Commission through the African Minerals Development Centre. Despite. The forum acknowledged the improved legislations in the sub-Saharan countries despite many implementation challenges.

United States Geological Survey and the Geological Survey of Canada.

BGI also participated in the Critical Minerals Forum: Europe and Africa, focusing on the "The past, present, and future directions of critical mineral research". This was organised by United States Geological Survey and the Geological Survey of Canada.





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HUMAN CAPABILITY AND WELLNESS



HUMAN CAPABILITY AND WELLNESS

BGI values its employees and strives to adhere to best employment practices that are designed to attract, retain and develop employees to achieve a positive impact on BGI and its wider stakeholder community. The institute endeavours to provide best service internally and resolve any matter that has the potential to unsettle its work force through the established structures and platforms. The institute also benchmarks itself against industry best practice.



Safety, Health Environment and Wellness

The Institute is commitment to employee safety, health and wellness is enshrined in its Mantra to achieve excellence across the business. A Safety,

Health and Wellness Policy has been developed and approved by the Board of Directors. In the advent of COVID-19, the institute established a COVID-19 Response Team to coordinate all tasks related to curbing the spread and minimise its effect.

Table 6: COVID- 19 registered cases

Case Registered	Recoveries	Active cases	Fatalities
8	8	0	0

In addition to measures introduced by the Botswana Government to prevent the spread of coronavirus, the Institute introduced Varied Work Schedules for all Employees including Temporary employees, Interns and Tirelo Sechaba Participants. The

rationale behind the introduction of the schedules was to reduce congestion in the workplace as well as ensuring continuity of service to our valued customers. This ensure minimal disruptions on customer services and business continuity.

HUMAN CAPABILITY AND WELLNESS *(Continued)*

Talent acquisition and management

The Institute has 127 funded positions and the financial year 2020/2021 closed with 120 headcounts (in posts) and 7 vacancies. Figure 25 below demonstrates this status.

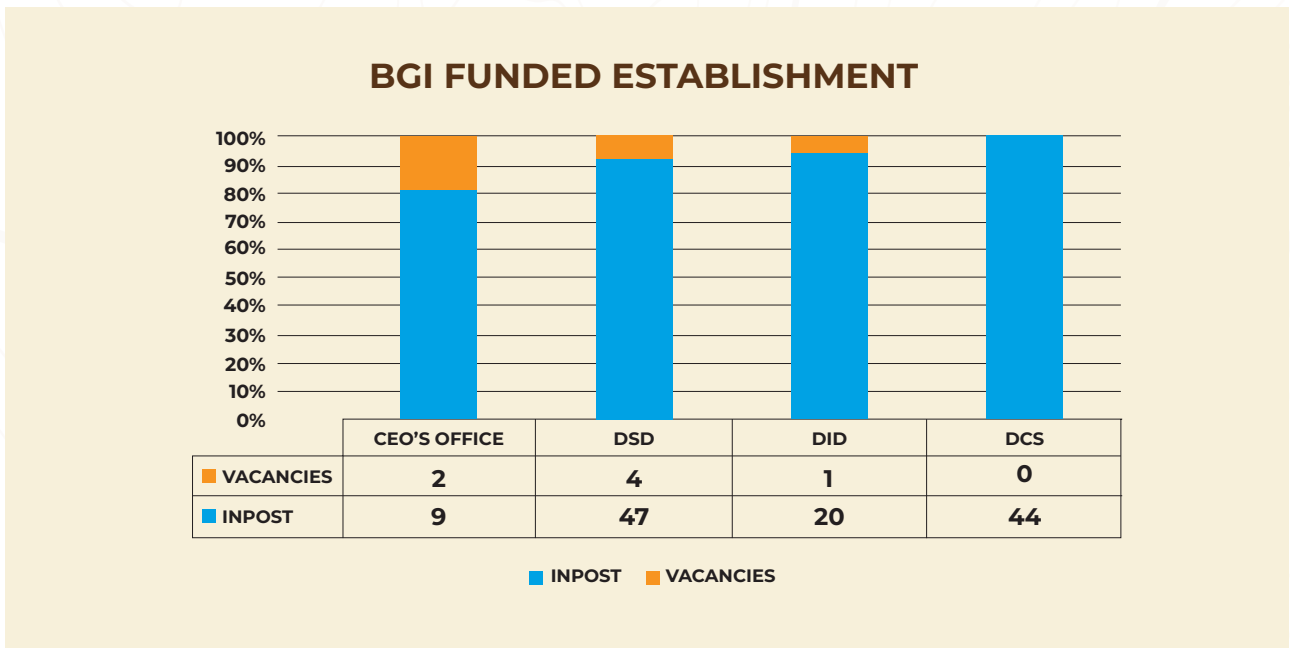


Figure 25: Comparison of funded positions, headcounts and vacancies

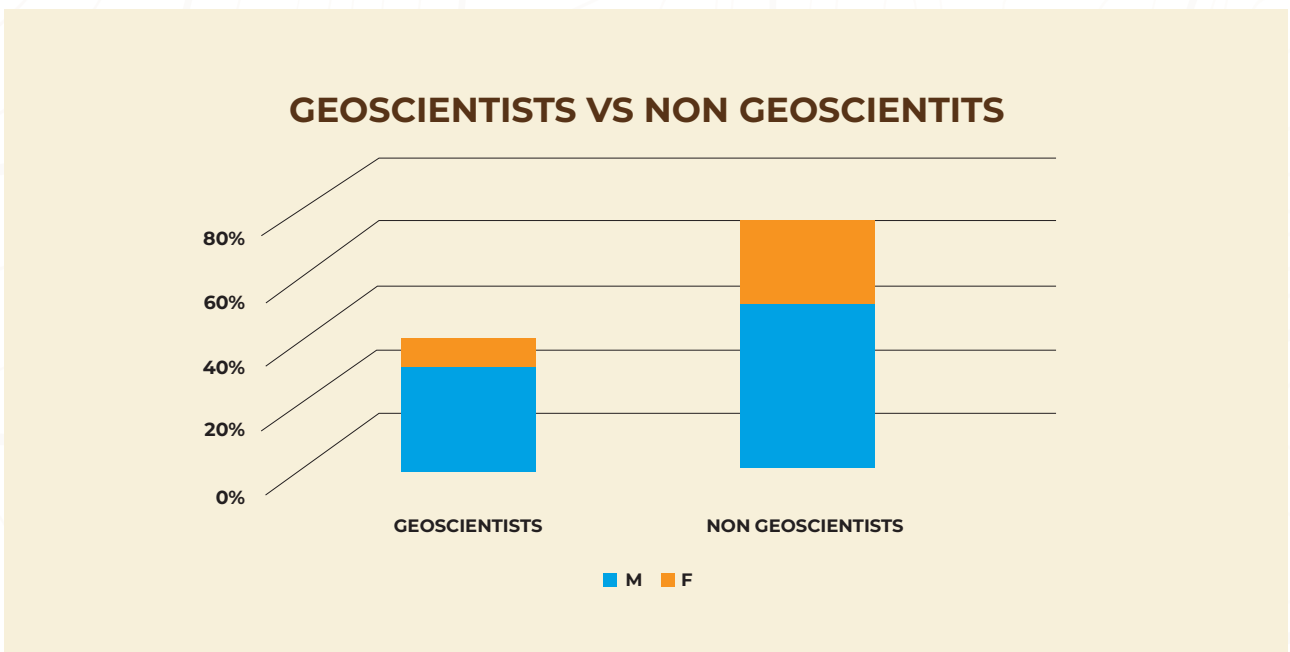


Figure 26: Comparison of geoscientists and non-geoscientists

HUMAN CAPABILITY AND WELLNESS *(Continued)*

Staff Retention

Staff Retention for 2020/2021 stood at **97.2%** against a target of **97%**. Even though the retention strategy is not yet in place, the Institute has managed to retain its employees beyond the set target. The Institute Management commits to speeding up the development of staff retention strategy which will assist in identifying activities to address staff retention.

Performance management/ improvement

Monitoring employee performance is crucial to the success of the organization and the delivery of its strategic objectives. The Institute has adopted a performance management process which promotes continuous dialogue between supervisors and supervisees.

During the period under review, challenges resulting from COVID19 were experienced as some employees tested positive and others were identified as close contacts and had to go on isolation. This interrupted the performance management exercise in the institute.

In pursuit to address this challenge, the Institute introduced new methods of work. BGI Varied Work Schedules were formally developed and implemented. The schedules include working from home, rotational work, working in shifts and staggered working hours. The new work schedules were implemented in March 2021 and its effectiveness is yet to be assessed.

Training and development

The Institute continues to invest in employees through identified critical training and development programmes. It recognizes the value and importance of providing training opportunities for all its staff members, both core and support, to develop their job-related knowledge and skills required to carry out their job responsibilities. In implementing the training and development function, priority was directed to training programmes which align to the Corporate Strategic plan. These include but not limited to Project Management-(Prince 2), Technical Report Writing and Research Courses.

Industrial relations

BGI and BOPEU have experienced growth in their relations. This is evident in strong engagement of both parties on issues that affect employees. The relations have been cordial throughout the year.

The current bargaining structure in the Institute comprises 101 employees which convert to 84%. The remaining percentage is for employees outside the union bargaining structure.

Retirement Annuity

The Institute continues to make contributions towards employee retirement fund hosted by Botswana Life. By the end of May 2021, the fund had accumulated an amount of P13, 410, 526.00 compared to P9, 679, 793.00 for the same period in 2020. This depicts fund growth by P3, 730, 733.00.



**BOTSWANA GEOSCIENCE
INSTITUTE**

FINANCIAL STATEMENTS FOR THE YEAR
ENDED 31 MARCH 2021

FINANCIAL STATEMENTS

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BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

General Information

Country of incorporation and domicile	Botswana	
Nature of business and principal activities	Responsible for research in the field of geosciences, providing specialised geoscientific services and promoting the search for, and exploration of any minerals in Botswana.	
Board members	<p>Prof. Motsotse Modisi Prof. Elisha M. Shemang</p> <p>Dr. Sebusi Odisitse</p> <p>Ms. Tebogo Mmoshe Ms. Ontlametse Mokopakgosi Dr. Budzanani Tacheba Ms. Bogadi Mathangwane Mr. Ogone M.Gaboutloeloe Mr. Harold van Zyl Mr. Othusitse Lebuletswe Ms. Portia Nuku-Basaakane Mr. Siphon Mbebe Mr. Tiyapo H.Ngwisanyi (ex- officio Member)</p>	<p>Chairperson of the Board Vice Chairperson of the Board (Until June 2020) Member (Vice Chairperson appointed July 2020)</p> <p>Member Member Member Member Member Member Member Co-opted Member Co-opted Member Co-opted Chief Executive Officer</p>
Registered office	Plot 11566 Khama 1 Avenue Lobatse	
Postal address	Private Bag 14 Lobatse	
Bankers	First National Bank Botswana Limited	
Auditors	Mazars Partnership	
Board Secretary	Ms. Obolokile Sekga	

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Members of Board Responsibilities and Approval

The Members of Board are required in terms of the Botswana Geoscience Institute Act, 2014 to maintain adequate accounting records and are responsible for the content and integrity of the annual financial statements and related financial information included in this report. It is their responsibility to ensure that the annual financial statements fairly present the state of affairs of the Institute as at the end of the financial year and the results of its operations and cash flows for the period then ended, in conformity with International Financial Reporting Standards. The external auditors are engaged to express an independent opinion on the annual financial statements.

The annual financial statements are prepared in accordance with International Financial Reporting Standards and are based upon appropriate accounting policies consistently applied and supported by reasonable and prudent judgements and estimates.

The Members of the Board acknowledge that they are ultimately responsible for the system of internal financial control established by the Institute and place considerable importance on maintaining a strong control environment. To enable the Members of the Board to meet these responsibilities, the board sets standards for internal control aimed at reducing the risk of error or loss in a cost effective manner. The standards include the proper delegation of responsibilities within a clearly defined framework, effective accounting procedures and adequate segregation of duties to ensure an acceptable level of risk. These controls are monitored throughout the Institute and all employees are required to maintain the highest ethical standards in ensuring the Institute's business is conducted in a manner that in all reasonable circumstances is above reproach. The focus of risk management in the Institute is on identifying, assessing, managing and monitoring all known forms of risk across the Institute. While operating risk cannot be fully eliminated, the Institute endeavours to minimise it by ensuring that appropriate infrastructure, controls, systems and ethical behaviour are applied and managed within predetermined procedures and constraints.

The Members of the Board are of the opinion, based on the information and explanations given by management, that the system of internal control provides reasonable assurance that the financial records may be relied on for the preparation of the annual financial statements. However, any system of internal financial control can provide only reasonable, and not absolute, assurance against material misstatement or loss.

The Members of the Board have reviewed the Institute's cash flow forecast for the year to 31 March 2022 and, in light of this review and the current financial position, they are satisfied that the Institute has or had access to adequate resources to continue in operational existence for the foreseeable future. The members have also considered, assessed, accounted for and disclosed the impact of COVID-19 pandemic on the operations of the entity which is disclosed in note 23.

The external auditors are responsible for independently auditing and reporting on the Institute's annual financial statements. The annual financial statements have been examined by the Institute's external auditors and their report is presented on pages 70 to 72.

The annual financial statements set out on pages 73 to 94, which have been prepared on the going concern basis, were approved by the Board on 27 August 2021 and were signed on their behalf by:



Prof. Motsotse P. Modisi
BGI Board Chairperson



Mr. Puso Akanyang
(Acting Chief Executive Officer)

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

INDEPENDENT AUDITOR'S REPORT



To the members of Botswana Geoscience Institute

Opinion

We have audited the annual financial statements of Botswana Geoscience Institute set out on pages 73 to 94, which comprise the statement of financial position as at 31 March 2021, statement of profit or loss and other comprehensive income, statement of changes in funds and statement of cash flows for the year then ended, and notes to the annual financial statements, including a summary of significant accounting policies.

In our opinion, the annual financial statements present fairly, in all material respects, the financial position of Botswana Geoscience Institute as at 31 March 2021, and its financial performance and cash flows for the year then ended in accordance with International Financial Reporting Standards.

Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Annual Financial Statements section of our report. We are independent of the institute in accordance with the International Ethics Standards Board for Accountants Code of Ethics for Professional Accountants (Parts A and B) (IESBA Code) and other independence requirements applicable to performing audits of annual financial statements in Botswana. We have fulfilled our other ethical responsibilities in accordance with the IESBA Code and in accordance with other ethical requirements applicable to performing audits in Botswana. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis of Matter

We draw attention to Note 23 to the annual financial statements which indicates the effects of COVID 19 on the operations of the Institute. Our opinion is not modified in respect of this matter.

Key Audit Matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the annual financial statements of the current period. These matters were addressed in the context of our audit of the annual financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

We have determined that there are no key audit matters to communicate in our report.

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

INDEPENDENT AUDITOR'S REPORT

Other Information

The Members of Board are responsible for the other information. The other information comprises detailed income statement set out on page 95. The other information does not include the annual financial statements and our auditor's report thereon.

Our opinion on the annual financial statements does not cover the other information and we do not express an audit opinion or any form of assurance conclusion thereon.

In connection with our audit of the annual financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the annual financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the Directors for the Annual Financial Statements

The Members of Board are responsible for the preparation and fair presentation of the annual financial statements in accordance with International Financial Reporting Standards, and for such internal control as the members determine is necessary to enable the preparation of annual financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the annual financial statements, the Members of Board are responsible for assessing the institute's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Members of Board either intend to liquidate the institute or to cease operations, or have no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Annual Financial Statements

Our objectives are to obtain reasonable assurance about whether the annual financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with International Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these annual financial statements.

As part of an audit in accordance with International Standards on Auditing, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the annual financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

INDEPENDENT AUDITOR'S REPORT Continued

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the institute's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the members of board.
- Conclude on the appropriateness of the Members of Board use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the institute's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the annual financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the institute to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the annual financial statements, including the disclosures, and whether the annual financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with the members of board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

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Mazars

Partnership

Practicing Member: **Shashikumar Velambath**

Membership Number: **19980076**

Date 30 / 08 / 2021

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BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Statement of Financial Position as at 31 March 2021

Figures in Pula	Notes	2021	2020
Assets			
Non-Current Assets			
Property, plant and equipment	3	196,728,606	197,110,884
Intangible assets	4	2,262,972	-
		198,991,578	197,110,884
Current Assets			
Inventories	5	445,425	239,193
Trade and other receivables	6	945,234	402,043
Cash and cash equivalents	7	22,925,373	22,160,572
		24,316,032	22,801,808
Non-current assets held for sale	8	-	118,300
Total Assets		223,307,610	220,030,992
Funds and Liabilities			
Funds			
Capital Grant	9	198,991,576	197,229,181
Accumulated Surplus		6,790,924	5,054,415
		205,782,500	202,283,596
Liabilities			
Current Liabilities			
Trade and other payables	10	13,523,966	8,577,834
Deferred income	11	4,001,144	9,169,562
		17,525,110	17,747,396
Total Funds and Liabilities		223,307,610	220,030,992

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Statement of Profit or Loss and Other Comprehensive Income

Figures in Pula	Notes	2021	2020
Grant Income	12	78,034,712	65,064,679
Other operating income	13	7,539,555	9,530,545
Other operating (losses) gains	14	(2,059)	828,514
Other operating expenses		(84,028,053)	(71,391,322)
Operating surplus	15	1,544,155	4,032,416
Investment income	16	192,352	119,300
Surplus for the year		1,736,507	4,151,716

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Statement of Changes in Funds

Figures in Pula	Capital Grant	Accumulated Surplus	Total Funds
Balance at 01 April 2019	<u>203,757,815</u>	<u>902,699</u>	<u>204,660,514</u>
Surplus for the year	<u>-</u>	<u>4,151,716</u>	<u>4,151,716</u>
Assets capitalised	1,521,315	-	1,521,315
Amortisation of capital grant	(6,110,265)	-	(6,110,265)
Capital assets disposed	(1,939,684)	-	(1,939,684)
	<u>(6,528,634)</u>	<u>-</u>	<u>(6,528,634)</u>
Balance at 01 April 2020	<u>197,229,181</u>	<u>5,054,417</u>	<u>202,283,598</u>
Surplus for the year	<u>-</u>	<u>1,736,507</u>	<u>1,736,507</u>
Assets capitalised	8,489,198	-	8,489,198
Amortisation of capital grant	(6,357,480)	-	(6,357,480)
Capital assets disposed	(369,324)	-	(369,324)
	<u>1,762,394</u>	<u>-</u>	<u>1,762,394</u>
Balance at 31 March 2021	<u>198,991,575</u>	<u>6,790,924</u>	<u>205,782,499</u>
Note	9		

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Statement of Cash Flows

Figures in Pula	Notes	2021	2020
Cash flows from operating activities			
Surplus for the year		1,736,507	4,151,716
Adjustments for:			
Depreciation and amortisation		6,357,480	6,218,080
Losses (gains) on disposals, scrappings and settlements of assets and liabilities		2,059	(828,514)
Interest received		(192,352)	(119,300)
Changes in working capital:			
Inventories		(206,232)	160,718
Trade and other receivables		(543,191)	598,138
Trade and other payables		4,946,138	809,017
Deferred income		(5,168,418)	8,638,647
Cash generated from operations		6,931,991	19,628,502
Cash flows from investing activities			
Purchase of property, plant and equipment	3	(5,903,085)	(1,521,315)
Sale of property, plant and equipment	3	248,965	2,659,983
Purchase of other intangible assets	4	(2,586,113)	-
Non current asset held for sale		118,300	-
Interest Income		192,352	119,300
Net cash from investing activities		(7,929,581)	1,257,968
Cash flows from financing activities			
Amortisation of capital grant	9	(6,357,480)	(6,218,080)
Capitalised assets	9	8,119,872	(310,550)
Net cash from financing activities		1,762,392	(6,528,630)
Total cash movement for the year		764,802	14,357,840
Cash at the beginning of the year		22,160,572	7,802,731
Total cash at end of the year	7	22,925,374	22,160,571

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Accounting Policies

1. Significant accounting policies

The principal accounting policies applied in the preparation of these annual financial statements are set out below.

1.1 Basis of preparation

The annual financial statements have been prepared on the going concern basis in accordance with, and in compliance with, International Financial Reporting Standards ("IFRS") and International Financial Reporting Interpretations Committee ("IFRIC") interpretations issued and effective at the time of preparing these annual financial statements.

The annual financial statements have been prepared on the historic cost convention, unless otherwise stated in the accounting policies which follow and incorporate the principal accounting policies set out below. They are presented in Pulas, which is the institute's functional currency.

These accounting policies are consistent with the previous period.

1.2 Significant judgements and sources of estimation uncertainty

The preparation of annual financial statements in conformity with IFRS requires management, from time to time, to make judgements, estimates and assumptions that affect the application of policies and reported amounts of assets, liabilities, income and expenses. These estimates and associated assumptions are based on experience and various other factors that are believed to be reasonable under the circumstances. Actual results may differ from these estimates. The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimates are revised and in any future periods affected.

Critical judgements in applying accounting policies

Board Members did not make critical judgements in the application of accounting policies, apart from those involving estimations, which would significantly affect the financial statements.

Key sources of estimation uncertainty

Useful lives of property, plant and equipment

The institute reviews the estimated useful lives of property, plant and equipment when changing circumstances indicate that they may have changed since the most recent reporting date. During the current year, the members determined that the useful lives of certain items of surveillance equipment should be shortened, due to developments in technology.

1.3 Property, plant and equipment

Property, plant and equipment are tangible assets which the institute holds for its own use or for rental to others and which are expected to be used for more than one year.

An item of property, plant and equipment is recognised as an asset when it is probable that future economic benefits associated with the item will flow to the institute, and the cost of the item can be measured reliably.

Property, plant and equipment is initially measured at cost. Cost includes all of the expenditure which is directly attributable to the acquisition or construction of the asset.

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Accounting Policies

1.3 Property, plant and equipment (continued)

Expenditure incurred subsequently for major services, additions to or replacements of parts of property, plant and equipment are capitalised if it is probable that future economic benefits associated with the expenditure will flow to the institute and the cost can be measured reliably. Day to day servicing costs are included in profit or loss in the year in which they are incurred.

Property, plant and equipment is subsequently stated at cost less accumulated depreciation and any accumulated impairment losses.

Depreciation of an asset commences when the asset is available for use as intended by management. Depreciation is charged to write off the asset's carrying amount over its estimated useful life to its estimated residual value, using a method that best reflects the pattern in which the asset's economic benefits are consumed by the institute. Leased assets are depreciated in a consistent manner over the shorter of their expected useful lives and the lease term. Depreciation is not charged to an asset if its estimated residual value exceeds or is equal to its carrying amount. Depreciation of an asset ceases at the earlier of the date that the asset is classified as held for sale or derecognised.

The useful lives of items of property, plant and equipment have been assessed as follows:

Item	Depreciation method	Average useful life
Buildings	Straight line	50 years
Plant and machinery	Straight line	6-7 years
Furniture and fixtures	Straight line	10 years
Motor vehicles	Straight line	5 years
Office equipment	Straight line	4 - 20 years
Laboratory equipment and instruments	Straight line	15 years

Land is not depreciated.

The residual value, useful life and depreciation method of each asset are reviewed at the end of each reporting year. If the expectations differ from previous estimates, the change is accounted for prospectively as a change in accounting estimate.

Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item is depreciated separately.

The depreciation charge for each year is recognised in profit or loss unless it is included in the carrying amount of another asset.

Impairment tests are performed on property, plant and equipment when there is an indicator that they may be impaired. When the carrying amount of an item of property, plant and equipment is assessed to be higher than the estimated recoverable amount, an impairment loss is recognised immediately in profit or loss to bring the carrying amount in line with the recoverable amount.

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Accounting Policies

1.3 Property, plant and equipment (continued)

An item of property, plant and equipment is derecognised upon disposal or when no future economic benefits are expected from its continued use or disposal. Any gain or loss arising from the derecognition of an item of property, plant and equipment, determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item, is included in profit or loss when the item is derecognised.

1.4 Intangible assets

An intangible asset is recognised when:

- it is probable that the expected future economic benefits that are attributable to the asset will flow to the entity; and
- the cost of the asset can be measured reliably.

Intangible assets are initially recognised at cost.

Intangible assets are carried at cost less any accumulated amortisation and any impairment losses.

The amortisation period and the amortisation method for intangible assets are reviewed every period-end. Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset are considered to modify the amortisation period or method, as appropriate and are treated as changes in accounting estimates. The amortisation expense on intangible assets with finite lives is recognised in the statement of profit or loss in the expense.

An intangible assets intangible asset is derecognised upon disposal (ie., at the date the recipient obtains control) or when no future economic benefits are expected from its use or disposal. Any gain or loss arising upon derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in the statement of profit or loss

Amortisation is provided to write down the intangible assets, on a straight line basis, to their residual values as follows:

Item	Depreciation method	Average useful life
Computer software	Straight line	10 years

1.5 Financial instruments

Financial instruments held by the institute are classified in accordance with the provisions of IFRS 9 Financial Instruments.

Broadly, the classification possibilities, which are adopted by the institute, as applicable, are as follows:

Financial assets which are equity instruments:

- Mandatorily at fair value through profit or loss; or

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Accounting Policies

1.5 Financial instruments (continued)

Financial assets which are debt instruments:

- Amortised cost. (This category applies only when the contractual terms of the instrument give rise, on specified dates, to cash flows that are solely payments of principal and interest on principal, and where the instrument is held under a business model whose objective is met by holding the instrument to collect contractual cash flows); or

Financial liabilities:

- Amortised cost; or
Note 20 Financial instruments and risk management presents the financial instruments held by the institute based on their specific classifications.

All regular way purchases or sales of financial assets are recognised and derecognised on a trade date basis. Regular way purchases or sales are purchases or sales of financial assets that require delivery of assets within the time frame established by regulation or convention in the marketplace. The specific accounting policies for the classification, recognition and measurement of each type of financial instrument held by the institute are presented below:

Trade and other receivables

Classification

Trade and other receivables, excluding, when applicable, prepayments are classified as financial assets subsequently measured at amortised cost (note 6).

They have been classified in this manner because their contractual terms give rise, on specified dates to cash flows that are solely payments of principal and interest on the principal outstanding, and the institute's business model is to collect the contractual cash flows on trade and other receivables.

Recognition and measurement

Trade and other receivables are recognised when the institute becomes a party to the contractual provisions of the receivables. They are measured, at initial recognition, at fair value plus transaction costs, if any.

They are subsequently measured at amortised cost.

The amortised cost is the amount recognised on the receivable initially, minus principal repayments, plus cumulative amortisation (interest) using the effective interest method of any difference between the initial amount and the maturity amount, adjusted for any loss allowance.

Impairment

The institute does not recognise a loss allowance for expected credit losses on trade and other receivables, as receivables are insignificant compared to income.

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Accounting Policies

1.5 Financial instruments (continued)

Write off policy

The institute writes off a receivable when there is information indicating that the counterparty is in severe financial difficulty and there is no realistic prospect of recovery, e.g. when the counterparty has been placed under liquidation or has entered into bankruptcy proceedings. Receivables written off may still be subject to enforcement activities under the institute recovery procedures, taking into account legal advice where appropriate. Any recoveries made are recognised in profit or loss.

Derecognition

Refer to the derecognition section of the accounting policy for the policies and processes related to derecognition.

Trade and other payables

Classification

Trade and other payables (note 10), and amounts received in advance, are classified as financial liabilities subsequently measured at amortised cost.

Recognition and measurement

They are recognised when the institute becomes a party to the contractual provisions, and are measured, at initial recognition, at fair value plus transaction costs, if any.

They are subsequently measured at amortised cost using the effective interest method.

The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the financial liability, or (where appropriate) a shorter period, to the amortised cost of a financial liability.

If trade and other payables contain a significant financing component, and the effective interest method results in the recognition of interest expense, then it is included in profit or loss in finance costs.

Trade and other payables expose the institute to liquidity risk and possibly to interest rate risk. Refer to note 20 for details of risk exposure and management thereof.

Derecognition

Refer to the "derecognition" section of the accounting policy for the policies and processes related to derecognition.

Cash and cash equivalents

Cash and cash equivalents are stated at carrying amount which is deemed to be fair value.

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Accounting Policies

1.5 Financial instruments (continued)

Derecognition

Financial assets

The institute derecognises a financial asset only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another party. If the institute neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the institute recognises its retained interest in the asset and an associated liability for amounts it may have to pay. If the institute retains substantially all the risks and rewards of ownership of a transferred financial asset, the institute continues to recognise the financial asset and also recognises a collateralised borrowing for the proceeds received.

Financial liabilities

The institute derecognises financial liabilities when, and only when, the institute obligations are discharged, cancelled or they expire. The difference between the carrying amount of the financial liability derecognised and the consideration paid and payable, including any non-cash assets transferred or liabilities assumed, is recognised in profit or loss.

1.6 Non-current assets (disposal groups) held for sale or distribution to owners

Non-current assets and disposal groups are classified as held for sale if their carrying amount will be recovered through a sale transaction rather than through continuing use. This condition is regarded as met only when the sale is highly probable and the asset (or disposal group) is available for immediate sale in its present condition.

Management must be committed to the sale, which should be expected to qualify for recognition as a completed sale within one year from the date of classification.

Non-current assets (or disposal groups) held for sale (distribution to owners) are measured at the lower of their carrying amount and fair value less costs to sell (distribute).

A non-current asset is not depreciated (or amortised) while it is classified as held for sale (held for distribution to owners), or while it is part of a disposal group classified as such.

1.7 Impairment of assets

The institute assesses at each end of the reporting period whether there is any indication that an asset may be impaired. If any such indication exists, the institute estimates the recoverable amount of the asset.

If there is any indication that an asset may be impaired, the recoverable amount is estimated for the individual asset. If it is not possible to estimate the recoverable amount of the individual asset, the recoverable amount of the cash-generating unit to which the asset belongs is determined.

The recoverable amount of an asset or a cash-generating unit is the higher of its fair value less costs to sell and its value in use.

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Accounting Policies

1.7 Impairment of assets (continued)

If the recoverable amount of an asset is less than its carrying amount, the carrying amount of the asset is reduced to its recoverable amount. That reduction is an impairment loss.

An impairment loss of assets carried at cost less any accumulated depreciation or amortisation is recognised immediately in profit or loss. Any impairment loss of a revalued asset is treated as a revaluation decrease.

A reversal of an impairment loss of assets carried at cost less accumulated depreciation or amortisation other than goodwill is recognised immediately in profit or loss.

1.8 Income tax

The institute is a not for profit organisation and its income is exempt from income tax.

1.9 Employee benefits

Short-term employee benefits

The cost of short-term employee benefits, (those payable within 12 months after the service is rendered, such as paid vacation leave and sick leave, bonuses, and non-monetary benefits such as medical care), are recognised in the period in which the service is rendered and are not discounted.

The expected cost of compensated absences is recognised as an expense as the employees render services that increase their entitlement or, in the case of non-accumulating absences, when the absence occurs.

The expected cost of profit sharing and bonus payments is recognised as an expense when there is a legal or constructive obligation to make such payments as a result of past performance.

Severance and gratuity benefits

Contract employees are entitled to severance pay in accordance with the terms specified in the Botswana Employment Act, and gratuity in terms of their employment contracts. Severance and gratuity benefits are recognized at the end of each financial period as they are accrued and a provision made equal to the liability estimated as the employee renders service to the institute up to the period end.

1.10 Government grants

Government grants are recognised when there is reasonable assurance that:

- the institute will comply with the conditions attaching to them; and
- the grants will be received.

Government grants are recognised as income over the periods necessary to match them with the related costs that they are intended to compensate.

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Accounting Policies

1.10 Government grants (continued)

A government grant that becomes receivable as compensation for expenses or losses already incurred or for the purpose of giving immediate financial support to the entity with no future related costs is recognised as income of the period in which it becomes receivable.

Government grants related to assets, including non-monetary grants at fair value, are presented in the statement of financial position by setting up the grant as deferred income or by deducting the grant in arriving at the carrying amount of the asset.

Grants related to income are presented as a credit in the profit or loss in the statement of comprehensive income presented as a credit in the profit or loss (separately).

1.11 Inventories

Inventories are measured at the lower of cost and net realisable value.

The cost of inventories is assigned using the first-in, first-out (FIFO) formula

1.12 Related parties

Related parties are considered to be related if one party has the ability to control or jointly control the other party or exercise significant influence over the other party in making financial and operating decisions. Key management personnel are also regarded as related parties. Key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of the entity, directly or indirectly, including all board members.

Related party transactions are those where a transfer of resources or obligations between related parties occur, regardless of whether or not a price is charged.

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Notes to the Annual Financial Statements

Figures in Pula	2021	2020
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2. New Standards and Interpretations

2.1 Standards and interpretations effective and adopted in the current year

In the current year, the institute has adopted the following standards and interpretations that are effective for the current financial year and that are relevant to its operations:

Standard/ Interpretation:	Effective date: Years beginning on or after	Expected impact:
<ul style="list-style-type: none"> Interest Rate Benchmark Reform: Amendments to IFRS 9, IAS 39 and IFRS 7 	01 January 2020	The impact of the amendment is not material.
<ul style="list-style-type: none"> Presentation of Financial Statements: Disclosure initiative 	01 January 2020	The impact of the amendment is not material.
<ul style="list-style-type: none"> Accounting Policies, Changes in Accounting Estimates and Errors: Disclosure initiative 	01 January 2020	The impact of the amendment is not material.

2.2 Standards and interpretations not yet effective

The institute has chosen not to early adopt the following standards and interpretations, which have been published and are mandatory for the institute's accounting periods beginning on or after 01 April 2021 or later periods:

Standard/ Interpretation:	Effective date: Years beginning on or after	Expected impact:
<ul style="list-style-type: none"> Classification of Liabilities as Current or Non-Current - Amendment to IAS 1 	01 January 2023	Unlikely there will be a material impact

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Notes to the Annual Financial Statements

3. Property, plant and equipment

	2021			2020		
	Cost or revaluation	Accumulated depreciation	Carrying value	Cost or revaluation	Accumulated depreciation	Carrying value
Land	9,831,985	-	9,831,985	9,831,985	-	9,831,985
Buildings	165,528,015	(13,242,241)	152,285,774	165,528,015	(9,931,681)	155,596,334
Plant and machinery	7,309,000	(1,875,722)	5,433,278	7,309,000	(1,204,774)	6,104,226
Motor vehicles	6,167,477	(3,143,547)	3,023,930	5,893,099	(2,342,120)	3,550,979
Office equipment	10,845,221	(3,091,932)	7,753,289	6,631,180	(2,231,170)	4,400,010
Laboratory equipment and instruments	20,679,885	(2,279,535)	18,400,350	19,649,991	(2,022,641)	17,627,350
Total	220,361,583	(23,632,977)	196,728,606	214,843,270	(17,732,386)	197,110,884

Reconciliation of property, plant and equipment - 2021

	Opening balance	Additions	Disposals	Depreciation	Total
Land	9,831,985	-	-	-	9,831,985
Buildings	155,596,334	-	-	(3,310,560)	152,285,774
Plant and machinery	6,104,226	-	-	(670,948)	5,433,278
Motor vehicles	3,550,979	456,065	(132,387)	(850,727)	3,023,930
Office equipment	4,400,010	4,417,126	(118,637)	(945,210)	7,753,289
Laboratory equipment and Instruments	17,627,350	1,029,894	-	(256,894)	18,400,350
	197,110,884	5,903,085	(251,024)	(6,034,339)	196,728,606

Reconciliation of property, plant and equipment - 2020

	Opening balance	Additions	Disposals	Classified as held for sale	Depreciation	Total
Land	9,831,985	-	-	-	-	9,831,985
Buildings	158,906,894	-	-	-	(3,310,560)	155,596,334
Plant and machinery	6,500,699	-	-	-	(396,473)	6,104,226
Motor vehicles	4,942,156	1,366,783	(1,818,845)	(118,300)	(820,815)	3,550,979
Office equipment	5,233,070	153,579	(12,624)	-	(974,015)	4,400,010
Laboratory equipment and Instruments	18,342,614	953	-	-	(716,217)	17,627,350
	203,757,418	1,521,315	(1,831,469)	(118,300)	(6,218,080)	197,110,884

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Notes to the Annual Financial Statements

4. Intangible assets

	2021			2020		
	Cost / Valuation	Accumulated amortisation	Carrying value	Cost / Valuation	Accumulated amortisation	Carrying value
Computer software	2,586,113	(323,141)	2,262,972	-	-	-

Reconciliation of intangible assets - 2021

	Opening balance	Additions	Amortisation	Total
Computer software	-	2,586,113	(323,141)	2,262,972

Figures in Pula

2021 2020

5. Inventories

Consumables	445,425	239,193
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6. Trade and other receivables

Financial instruments:

Trade receivables	30,420	40,741
Other receivables	651,418	87,517
Board and manager recoveries	16,153	61,955
Imprest	228,232	199,618

Non-financial instruments:

WHT receivables	19,011	12,212
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Total trade and other receivables

945,234 **402,043**

Split between non-current and current portions

Current assets	945,234	402,043
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Financial instrument and non-financial instrument components of trade and other receivables

At amortised cost	926,223	389,831
Non-financial instruments	19,011	12,212
	945,234	402,043

Exposure to credit risk

Trade receivables inherently expose the institute to credit risk, being the risk that the institute will incur financial loss if customers fail to make payments as they fall due.

In order to mitigate the risk of financial loss from defaults, the institute only deals with reputable customers with consistent payment histories.

There have been no significant changes in the credit risk management policies and processes since the prior reporting period.

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Notes to the Annual Financial Statements

6. Trade and other receivables (Continued)

The average credit period on trade receivables is 30 days (2020: 30 days). No interest is charged on outstanding trade receivables.

A loss allowance has not recognised for all trade receivables, in accordance with IFRS 9 Financial Instruments, as it is not material at the end of each reporting period.

There has been no change in the estimation techniques or significant assumptions made during the current reporting period.

Fair value of trade and other receivables

The fair value of trade and other receivables approximates their carrying amounts.

Figures in Pula	2021	2020
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7. Cash and cash equivalents

Cash and cash equivalents consist of:

Cash on hand	2,572	2,044
Bank balances	<u>22,922,801</u>	<u>22,158,528</u>
	<u>22,925,373</u>	<u>22,160,572</u>

Credit quality of cash at bank and short term deposits, excluding cash on hand

The credit quality of cash at bank and short term deposits, excluding cash on hand that are neither past due nor impaired can be assessed by reference to external credit ratings or historical information about counterparty default rates. Commercial banks in Botswana are not rated, however these are subsidiaries of rated banks.

8. Non-current assets held for sale

Botswana Geoscience Institute, were using vehicles which were registered as Government vehicles from the ministry of minerals resources, green technology and energy. The ministry, then transferred these vehicles to Botswana Geoscience Institute officially on 31 October 2019. These vehicles, were then put up for auction and eventually sold in the month of November 2019.

Assets and liabilities

Non-current assets held for sale		
Property, plant and equipment	-	<u>118,300</u>

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Notes to the Annual Financial Statements

9. Capital Grant

Capital grant relates to grant received for the purpose of capital expenditure. The grant is amortised on an annual basis. The annual amortisation is equivalent to the depreciation on the assets that were financed from the grants.

Opening balance	197,229,181	203,757,813
Capital assets purchased	8,489,198	1,521,313
Amortisation	(6,357,480)	(6,218,080)
Capital assets disposed	(369,323)	(1,831,865)
	198,991,576	197,229,181

10. Trade and other payables

Financial instruments:

Payables	3,923,522	179,073
Payroll liabilities	9,600,444	8,398,761
	13,523,966	8,577,834

Financial instrument and non-financial instrument components of trade and other payables

At amortised cost	13,523,969	8,577,831
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Fair value of trade and other payables

The fair value of trade and other payables approximates their carrying amounts.

Figures in Pula

2021

2020

11. Deferred income

Deferred income represents grants received from the government that have not been utilised yet. These amounts will be recognised when they are applied for the purposes as defined under the grant convention.

Opening Balance	9,169,563	530,916
Grant Income	80,986,169	73,832,374
Revenue expenditure	(77,665,390)	(65,039,196)
Capital expenditure	(8,489,198)	(154,531)
	4,001,144	9,169,563

12. Grant Income

Government grants	72,200,000	61,542,114
Other project grants	8,786,169	12,315,743
Deferred income utilised during the period	(2,951,457)	(8,793,178)
	78,034,712	65,064,679

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Notes to the Annual Financial Statements

Figures in Pula	Note(s)	2021	2020
13. Other operating income			
Commissions received		122,459	114,348
Rental income		672,151	599,064
Amortisation of capital grant		6,357,480	6,218,080
Other income		387,465	674,369
Profit on sale of assets purchases using capital grant		-	1,924,684
		7,539,555	9,530,545
14. Other operating gains (losses)			
Gains (losses) on disposals, scrappings and settlements			
Property, plant and equipment	3	(2,059)	828,514
15. Operating profit (loss)			
Operating surplus for the year is stated after charging (crediting) the following, amongst others:			
Auditor's remuneration - external			
Audit fees		147,964	125,540
Remuneration, other than to employees			
Consulting and professional services		550,001	357,148
Employee costs			
Salaries, wages, bonuses and other benefits		40,183,879	39,847,297
Gratuity expenses		2,476,632	2,484,505
Retirement benefit plans: defined contribution expense		3,157,104	3,168,872
Total employee costs		45,817,615	45,500,674
15. Operating profit (loss) (continued)			
Depreciation and amortisation			
Depreciation of property, plant and equipment		6,034,339	6,218,080
Amortisation of intangible assets		323,141	-
Total depreciation and amortisation		6,357,480	6,218,080
16. Investment income			
Interest income			
Investments in financial assets:			
Bank		192,352	119,300

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Notes to the Annual Financial Statements

Figures in Pula	2021	2020
17. Taxation		
No provision has been made for tax as the Institute is exempt from tax.		
18. Related parties		
Relationships		
Member of Board	Refer to page 1 (General Information)	
Members of key management	Senior management	
Stakeholder	Government of Botswana	
Related party transactions		
Income		
Government of Botswana-Grant received	72,200,000	61,702,374
Employee cost		
Senior Management Salaries	7,935,305	7,612,707
Board Expenses		
Board fees allowances	309,015	178,920
Board meetings	255,734	350,420
	564,749	529,340
Amount included in trade receivables related parties		
Board and Manager Recoveries	16,153	61,955
19. Members of the Board Fees		
Prof. Motsoptse Modisi	26,775	12,600
Prof. Elisha M.Shemang (end of term)	3,780	26,460
Ms.Tebogo Mmoshe	34,020	18,900
Ms.Ontlametse Mokopakgosi**	49,140	22,680
Dr.Sebusi Odisitse**	44,100	25,200
Dr.Budzanani Tacheba	12,600	27,720
Ms. Bogadi Mathangwane	37,800	26,460
Mr.Ogone M.Gaboutloeloe**	51,660	18,900
Mr.Harold Van Zyl**	20,160	
Mr.Othusitse Lebuletswe**	6,300	
Ms.Portia Nuku-Basaakane**	5,040	
Mr.Sipho Mbebe**	17,640	
	309,015	178 920

**The board fees were higher in the current year due to additional co-opted members and the recruitment of the chief executive officer.

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Notes to the Annual Financial Statements

20. Financial instruments and risk management

Categories of financial instruments

Categories of financial assets

2021

	Note(s)	Amortised cost	Total	Fair value
Trade and other receivables	6	926,223	926,223	926,223
Cash and cash equivalents	7	22,925,373	22,925,373	22,925,373
		23,851,596	23,851,596	23,851,596

2020

	Note(s)	Amortised cost	Total	Fair value
Trade and other receivables	6	389,831	389,831	389,831
Cash and cash equivalents	7	22,160,572	22,160,572	22,160,572
		22,550,403	22,550,403	22,550,403

Categories of financial liabilities

2021

	Note(s)	Amortised cost	Total	Fair value
Trade and other payables	10	13,523,969	13,523,969	13,523,969

2020

	Note(s)	Amortised cost	Total	Fair value
Trade and other payables	10	8,577,831	8,577,831	8,577,831

Capital risk management

The institute's objectives when managing capital are to safeguard the institute's ability to continue as a going concern in order to provide returns for stakeholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital.

The Institute is funded by the Government. Consistent with this objective, the Institute does not monitor capital on the basis of the gearing ratio.

Trade and other payables	10	13,523,969	8,577,831
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BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Notes to the Annual Financial Statements

20. Financial instruments and risk management (continued)

Financial risk management

Overview

The institute is exposed to the following risks from its use of financial instruments:

- Credit risk;
- Liquidity risk; and

The board has overall responsibility for the establishment and oversight of the institute's risk management framework. The board has established the risk committee, which is responsible for developing and monitoring the institute's risk management policies. The committee reports quarterly to the board on its activities.

Liquidity risk

Prudent liquidity risk management implies maintaining sufficient cash, the availability of funding through an adequate amount of committed credit facilities.

2021

Carrying amount

Current liabilities

Trade and other payables	13,523,969
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2020

Carrying amount

Current liabilities

Trade and other payables	10	8,577,831
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Interest rate risk

As the institute has no significant interest-bearing assets, the institute's income and operating cash flows are substantially independent of changes in market interest rates.

21. Contingencies

There are no known contingent liabilities for the institute as at year end.

22. Events after the reporting period

The members of board are not aware of any material events occurring between the year-end date and the date of approval of the financial statements, which require disclosure.

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Notes to the Annual Financial Statements

23. Effect of COVID-19 on the operations of the company

In December 2019, a novel strain of coronavirus (COVID 19) was reported in Wuhan, China. The World Health Organization has declared the outbreak to constitute a "Public Health Emergency of International Concern." This Coronavirus was also first reported in Botswana in March 2020, and has spread to more than 212 countries worldwide covering Europe, the United States, Russia and even our neighbouring countries, South Africa, Zimbabwe and Zambia.

On 31 March 2020 the President of Botswana declared a "State of Emergency" in Botswana and from 2 April 2020 to 15 May 2020 the country was placed under lockdown and during the lockdown all non-essential businesses were closed down to curb the spread of COVID 19. The lock down restrictions were eased in May 2020 and businesses returned to normality with a list of preventative rules to be followed as a measure of reducing spread of COVID-19. As a result of this numerous sectors of the economy in Botswana are suffering damage and the long-term economic and business consequences remain unknown. Impacts on business such as sales and production disruptions, supply-chain interruptions, negative impacts on customers, volatility in the equity and debt markets, reduced revenue and cash flows, cash out flow through donations to the State COVID 19 fund and other economic consequences have been observed.

Board members highlighted that the COVID pandemic has had direct impact on the operations of the institute mainly in the following areas:

- Financial Impact – Government funding reduction of 22%
- Human resources – Loss of productive time/employee absenteeism, delayed Human Resources Development
- Customers – Restriction of in-person engagement, delayed customer service
- Technology – Information security and lack of business tools

The above were mitigated by a detailed business impact analysis resulting in adjustments of both the workflow operation, redirection of funding and prioritization.

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Detailed Income Statement

Figures in Pula	Notes	2021	2020
Revenue			
Government grants		72,200,000	61,542,114
Other project grants		8,786,169	12,315,743
Deferred income utilised during the period		(2,951,457)	(8,793,178)
	12	78,034,712	65,064,679
Other operating income			
Commissions received		122,459	114,348
Rental income		672,151	599,064
Amortisation of capital grant		6,357,480	6,218,080
Other Income		387,465	674,369
Profit on sale of assets purchases using capital grant		-	1,924,684
	13	7,539,555	9,530,545
Other operating gains (losses)			
(Losses) gains on disposal of assets or settlement of liabilities		(2,059)	828,514
Expenses (Refer to page 96)		(84,028,053)	(71,391,322)
Operating profit (loss)			
	15	1,544,155	4,032,416
Investment income	16	192,352	119,300
Surplus for the year		1,736,507	4,151,716

The supplementary information presented does not form part of the annual financial statements and is unaudited

BOTSWANA GEOSCIENCE INSTITUTE

Annual Financial Statements for the year ended 31 March 2021

Detailed Income Statement

Figures in Pula Note(s)	Notes	2021	2020
Other operating expenses			
Administration expenses		-	26,940
Advertising and Marketing		1,535,140	918,603
Amortisation		323,141	-
Auditors remuneration - external auditors	15	147,964	125,540
Bad debts		20,650	-
Bank charges		41,574	34,543
Board expenses		564,749	529,340
Cleaning		667,200	680,075
Co-operate & Strategy		118,739	118,764
Computer expenses		72,000	72,000
Consulting and professional fees		550,001	357,148
Consumables- Lab services		87,473	293,371
Consumables-Other		216,703	430,716
Data management expenses		2,969,628	1,831,357
Depreciation		6,034,339	6,218,080
Employee costs		45,817,615	45,500,674
General expenses		416,678	769,915
Health and Safety		418,148	210,770
Insurance		926,491	1,010,118
Lab services		176,709	-
Limestone Investigation- Other expenses		-	134,044
Motor vehicle expenses		435,171	770,762
NDP 11 Projects		12,596,344	4,965,494
Postage and telephone		1,115,934	423,776
Printing and stationery		430,435	543,281
Protective clothing		100	1,000
Recruitment expenses		-	19,336
Recurring projects		1,486,343	-
Repairs and maintenance		2,956,128	1,291,824
Security		790,867	830,862
Staff development and training expenses		441,675	322,809
Staff welfare		227,067	135,820
Subscriptions		62,844	107,496
Travel - external		56,447	564,928
Travel - local		198,857	1,458,013
Utilities		2,124,899	693,923
		84,028,053	71,391,322

The supplementary information presented does not form part of the annual financial statements and is unaudited

