

**TANZANIA GEOLOGICAL SOCIETY**



**Annual Conference Held at Nashera Hotel, Morogoro**

**from 28<sup>th</sup> to 30<sup>th</sup> October 2021**

**Themes**

**Geoscientific Registration Board as a Tool for Geo-ethics  
Policy (Framework) for Sustainable Extractive Industry Growth**

**Tanzania Geological Society**

**2021**

## TABLE OF CONTENTS

LIST OF ABBREVIATIONS.....	i
EXECUTIVE SUMMARY .....	i
DAY ONE, 28th of October 2021 .....	1
1.0 Opening Session.....	1
3.0 Panel Discussion on Mineral Sector: Financing Mining Projects, Effective Mineral Marketing Strategies and Development in Small Scale Mining.....	4
3.6 1 <sup>st</sup> Panel Discussion Summary .....	7
3.7 Measures in place to address some of the challenges: .....	8
3.8 Recommendations .....	8
3.10.1 Success of the Tanzania Mining Commission .....	9
3.10.2 Opportunities in the Mining Sector .....	9
3.10.3 Discussion .....	9
DAY TWO, 29 <sup>th</sup> of October 2021 .....	11
4.2.1 Geothermal Potentials by Katto Kabaka - TGDC representative .....	11
4.3 Concept of Energy Mix.....	12
4.4 Discussion on Energy Mix .....	12
4.5 Presentations after panel discussions .....	13
4.6 Taxation in the mining sector.....	13
4.7 Discussion on taxation in the mining sector .....	14
DAY THREE, 30 <sup>th</sup> October 2021 .....	16
STAKEHOLDERS MEETING FOR PROPOSAL FOR THE TANZANIA GEOSCIENTIFIC REGISTRATION BOARD (TGRB) .....	17
6.0 Stakeholders' meeting for Proposal for Tanzania Geoscientific Registration Board (TGRB).....	17
6.2 Comments from the Ministry of Water:.....	18
6.3 Comments from the Ministry of Livestock:.....	18
6.4 Comments from STAMICO: .....	18
6.6 Comments from UDSM:.....	19
6.7 Comments from NEMC:.....	19
6.8 Comments from TPDC: .....	19
6.9 Comments from PURA:.....	20

6.10	Comments from Dangote Cement Company: .....	20
6.11	Comments from Tanzania Mining Commission: .....	20
6.12	Ministry of Energy .....	20
7.0	Closing of the conference.....	20
TGS ANNUAL MEETING .....		22
9.0	TGS Training and Research Institute Plans .....	25
10.0	TGS Journal Plan .....	25
11.0	Election .....	26

## **LIST OF ABBREVIATIONS**

2D	Two Dimensions
3D	Three Dimensions
AU	African Union
BoT	Bank of Tanzania
CRDB	Cooperative and Rural Development Bank
EAC	East African Community
EFD	E-Fiscal Devices
ERT	Engineers Registration Board
EWURA	Energy and Water Utilities Regulatory Authority
GGM	Geita Gold Mines
JNHPP	Julius Nyerere Hydropower Plant
NBC	National Bank of Commerce
NEMC	National Environmental Council
NMB	National Bank of Commerce
PURA	Petroleum Upstream Regulatory Authority
RUWASA	Rural Water Supply and Sanitation Agency
SACCOS	Savings and Credit Cooperative Society
SSM	Small Scale Miners
STAMICO	State Mining Cooperation
TANESCO	Tanzania Electric Supply Company
TBS	Tanzania Bureau of Standards
TGDC	Tanzania Geothermal Development Company
TGRB	Tanzania Geoscientists Registration Board
TGS	Tanzania Geological Society
TIC	Tanzania Investment Centre
TPDC	Tanzania Petroleum Development Cooperation

UDOM	University of Dodoma
UDSM	University of Dar es Salaam
VAT	Value Added Tax

## EXECUTIVE SUMMARY

Tanzania Geological Society (TGS) organized an annual conference under two themes, namely, the Geoscientific Registration Board as a Tool for Geo-ethics and Policy (Framework) for Sustainable Extractive Industry Growth. The Conference was held on 28<sup>th</sup> to 30<sup>th</sup> October at Nashera Hotel in Morogoro Region. It gathered geoscientists, engineers, academicians and young researchers, stakeholders from the private sector and talented students from different geoscience perspectives.

The objective of the conference was to bring together a multidisciplinary group of brilliant geoscientists working in different insights into the latest research, major milestones, experiences and new ideas related to minerals, energy and water sectors of Tanzania. Such insights were shared through individual presentations and panel discussions on the mineral sector, energy and water resources.

The conference was inaugurated by the Deputy Minister for Minerals Hon. Prof. Shukrani Manyi (MP). The inauguration was followed by presentations of various topics on different issues pertaining to the mining industry, energy and water. The presentations and panel discussions were followed by stakeholders meeting to discuss a proposal for the Tanzania Geoscientific Registration Board (TGRB) and finally the TGS annual meeting. This report captures key issues which transpired during presentations and discussions in the conference.

Some major outputs were as follows:

1. TGS would advise the government on how to promote growth of local junior exploration companies. This will avail and create an understanding on the availability of earth resources in the country and their socio-economic implications.
2. TGS encouraged the government to fast track the process of establishing TGRB, through which authenticity of data and reports on mineral resource potential accrued from exploration will be established. Guidelines for establishing authenticity will be set by the TGRB report similar to JORC but customized to our environment. This will enable financial institutions to establish appropriate areas for provision of financial support, reduce risks in their investments, and hence promote their appetite to engage in the sector.
3. TGS advised the Government that the areas relinquished by exploration companies should be evaluated for their resources. If resources are good for development by small-scale mining methods (near surface, high grade low tonnage and with simple mineralogical paragenesis), they can be handed over to the small-scale miners. If resources are found to be deep seated, low grade high tonnage and with complex mineralogical paragenesis the areas can be auctioned to potential investors. If there is no sufficient data to establish the above characteristics, the area can go back to another exploration company for applying different exploration methods.

## DAY ONE, 28<sup>th</sup> of October 2021

### 1.0 Opening Session

- 1.1 The Conference was called to order at 9:30 am by the TGS Deputy Secretary, Mr. Chone Malembo. He then welcomed TGS Executive Secretary Dr. Elisante Mshiu who welcomed the participants to the conference and asked them to get ready for the arrival of the guest of honor into the conference hall.
- 1.2 The Guest of Honor, Deputy Minister for Minerals, Prof. Shukrani Many (MP) arrived at the conference hall at 09:35 am.
- 1.3 Thereafter, the Executive Secretary introduced the TGS leadership, Conference Organizing Committee and other participants to the Guest of Honor. The participants had come from both the public and private sectors. Participants from the public sector were TPDC, UDSM, UDOM, EWURA, TIC, BoT, TANESCO, TBS, STAMICO, NGORONGORO, RUWASA, NEMC, Ministry of Energy, Ministry of Minerals and PURA while participants from the private sector included members from LAPHARGE, MAZOKA RESOURCES, DANGOTE, TWIGA, GGM, BARRICK, AZAM, and National Microfinance Bank (NMB).
  - 1.3.1 He thanked sponsors of the conference, namely, TPDC, GGM, NMB, UDSM, TANESCO, TGS, TWIGA BARRICK, MAZOKA RESOURCES, NMB, BoT and BoA.
  - 1.3.2 He welcomed TGS President Prof. Abdulkarim Mruma to give introductory remarks.
- 1.4 Introductory Remarks by Prof. Abdulkarim Mruma (President of Tanzania Geological Society)
  - 1.4.1 In his introductory remarks, Prof. Mruma stated the aim of the conference was to provide a platform for geoscientists to exchange or share experiences on different perspectives of geosciences and resource development. The conference included visits to special areas and scientific presentations intended for sharing and widening of knowledge on Tanzania current geoscientific matters. Subsequent to the conference was an annual TGS meeting. He said the conference had been preceded by two day excursions to the Julius Nyerere Hydropower Project in Rufiji on 26<sup>th</sup> October 2021 and within Morogoro region on 27<sup>th</sup> October, 2021.
  - 1.4.2 He further underscored the importance of the mining sector in the economy of the country.
  - 1.4.3 He thanked the Ministry for enabling TGS to attain its goals.
  - 1.4.4 Apart from the general goals of TGS, he specified that in the near future TGS should focus on:

- establishing the Tanzania Geoscientist Registration Board (TGRB). He explained that all professions have registration boards. Lack of it, pushes Tanzanian Geoscientists to use other countries' registration boards e.g. Canada and Australia to approve their reports. The establishment of the board will enable geoscientists to accredit their reports and fast track processes, to verify and regulate Geoscientific works and information etc.
- discussing policy frameworks for sustainable extractive industry growth,
- establishing a TGS platform for serving earth sciences related industries and investing in the sectors.

1.4.5. Prof. Mruma welcomed the Morogoro District Commissioner, Hon. Albert Msando to deliver a welcome note and to welcome the Guest of Honor.

1.5 Welcome Note to all TGS members in Morogoro by Hon. Albert Msando

1.5.1 He thanked the Guest of Honor for honoring the conference and TGS for choosing Morogoro District as the conference would enhance geoscientific knowledge to Morogoro residents and directly contribute to the district's income. The event would also provide a platform for geoscientists to update themselves on the geology and potential mineral resources of the region, and use the opportunity to invest in the district.

1.5.2 He welcomed the participants to learn about Morogoro geology and to visit tourist attractions.

1.5.3 He informed the participants that Morogoro District was mountainous, and had impactful human activities which had led to different problems such as water crisis. He further informed that they were going to cancel permits for irrigation schemes so as to protect water sources, of which serve as the main water supply for Dar es Salaam Region.

1.5.4 He further urged the TGS participants to take measures to address their challenges and come up with long and short term recommendations to address them. He promised to offer necessary support in terms of infrastructure and security whenever needed.

1.5.5 The DC challenged geologists to recognize their worth before they are recognized by someone else; appreciation does not come by chance, rather it is earned. In his view, the geology profession determines the world's destiny, so this should help geoscientists to note their worth.

1.5.6 He urged them to set a time limit and fast track TGRB as it was one step towards their recognition, and it is one of the ways of monopolizing geological knowledge.

1.5.7 He offered them free legal services.

1.5.8 He welcomed the Guest of Honor.



- 1.6 Opening Speech by Hon. Prof. Shukrani Manya (MP), Deputy Minister for Minerals
- 1.6.1 The Guest of Honor started by thanking the DC for posing a challenge to the participating geoscientists.
- 1.6.2 He appreciated the annual conference initiatives and its role in strengthening bonds and facilitating knowledge sharing.
- 1.6.2 He further urged the participants to contribute thoughts that would build the nation and the profession, given the fact that there was a diverse representation of participants from different geological fields ranging from experienced senior geologists to junior geologists including students.
- 1.6.3 The Guest of Honor assured the participants that the government appreciated the presence and contribution of geoscientists to the national development and informed that currently the government is involving geologists in its activities more than at any time of the history.
- 1.6.4 He urged geoscientists and stakeholders to work together, from which he gave an example of Norway where universities work together with industries. Students get project themes from their field practical experiences.
- 1.6.5 Emphasizing the integration of Geoscientific knowledge with stakeholders, the Deputy Minister urged the geoscientists to make sure that the postgraduate students researching on helium present their findings to the Ministry of Minerals.
- 1.6.6 He further urged the geoscientists to expand forums of knowledge sharing instead of relying much on conferences. Also, other stakeholders like TBS should share how Geoscientific knowledge is applied in their fields.
- 1.6.7 The Guest of Honor commended TGS for succeeding to include the non-geoscience stakeholders such as banks (e.g. NMB) to the conference.
- 1.6.8 He further informed that the Government had been encouraging banks to participate in funding projects in water, energy and mineral sectors. Since then, there have been positive trends and now banks are sponsoring different projects.
- 1.6.9 On the process of TGRB, the Deputy Minister said that the Ministry had contacted Geological Survey of Tanzania (GST) to facilitate collection of stakeholders' opinions. The Geological Survey representative had been invited to participate in the stakeholders' meeting session to provide their opinion on TGRB. He was to compile the opinions within a very short time (7 days from 28<sup>th</sup> November 2021) and submit to the Ministry. The opinions would be subjected to the Cabinet paper to be presented to the Cabinet. He directed the Mineral Commissioner to take a close follow up.
- 1.6.10 He further challenged the geologists to venture into the mining business.

1.6.11 He commended the efforts of local investors particularly Mazoka Resources, a local mining company. He acknowledged that mining was capital intensive but geologists could use their experiences to minimize the challenges. They could venture in less capital intensive ventures like gypsum. Venturing in such projects would also contribute positively in energy and mineral resources development policies. He urged the TGS leadership to take advantage of available connections to fast track venturing processes.

1.6.11 He finally declared the conference open at 11:00 am.

## **1.7 Award Presentation**

1.7.1 The opening speech was followed by presentation of awards to Tanzania Petroleum Development Company (TPDC) and Tanzania Mining Commission (TMC). TPDC was awarded for leading in submissions of abstracts for presentations, whereas the TMC was awarded for their participation in large numbers.

1.7.2 The opening session was concluded by taking photos.

## **2.0 Presentation Session**

2.1 In this session a number of geoscientists presented their works and after each presentation, questions and discussions followed.

2.1.1 Professor Boniface Nelson: New tectonic model and division of the Ubendian-Usagaran Belt, Tanzania: a review and in situ dating of eclogites.

2.1.2 Athanas Macheyeke: Conventional versus non-conventional mineral exploration

2.1.3 Gloria Joseph: The tax regime and mineral exploration industry in Tanzania

2.1.4 Kenneth Nzowa: Financial support services to artisanal and small-scale mining projects in Tanzania: a critical evaluation

2.1.5. Julius Sarota: Mining Projects Financing – General Perspective

## **3.0 Panel Discussion on Mineral Sector: Financing Mining Projects, Effective Mineral Marketing Strategies and Development in Small Scale Mining**

3.1 The first presentation session was followed by a panel discussion convened by Julius Sarota and included the following panelists: Alex Mgeni, Gloria Joseph, Chone Malembo and Ministry of Minerals representatives.

3.1.1 The first part of the session started with a presentation from Alex Mgeni, NMB representative. His topic was Strategies to Develop Small Scale Miners – Challenges in Financing. In his presentation he said the bank is willing to finance small scale mining projects but the most hindering aspects were such as follows:

- lack of geoscientific information e.g. confirmation of presence of resource, mining site life time,
- dishonest miners (some abuse funds allocated for mining development),
- lack of financial records
- lack of information about marketability of minerals, transparency in the mineral market. He said one of the marketable minerals that were easy to get its data was gold, but the bank was aware that small-scale miners were involved in other kinds of minerals. He urged the Mining Commission to provide authentic mineral marketing information and record keeping - since for now banks rely on miners' information of tax or levy payments.

3.1.2 The second presentation was made by Gloria Joseph, a stakeholder from PriceWaters houseCoopers. She said another challenge towards development of small scale miners was lack of compliance to taxes and poor financial management. She advised small scale miners to be made aware of tax compliance and financial management.

3.1.3 The third presentation came from – Chone Malembo, Resident Mining Officer (RMO) for Singida Region. He started by saying that the major challenge in small scale mining is that it is multidimensional. The business involves small scale miners, license owners, mining site (duara) owners, miners and mineral traders. This makes it difficult to clearly identify a small scale miner. The small-scale miners have been raising funds from among themselves.

3.1.4 On the concern raised by the National Microfinance Bank (NMB), on gold being the only mineral in the market that was easy to get its information. He said there were other marketable minerals (e.g. lime, salt, sand, gypsum etc.) and the information on marketability was available.

3.1.5 He further said that the Mining Commission was willing to cooperate with financial institutions including linking them with the miners.

3.1.6 On extraction and exploration, Malembo said there had been guidelines on how to enable small scale miners to keep records but there are still challenges. He said development in many countries was driven by the mining sector and even the countries that did not have minerals used human capital to get minerals from other places.

3.1.7 Julius Sarota added that empirical studies showed that in the initial stages of exploration are carried by junior exploration companies, and when the sites show economic viability- major companies take over. Therefore, it is paramount to support local junior companies to explore. The government should be encouraged to support creation of local junior exploration companies and enable them to perform their duties.

3.1.8 The panelist from the Mining Commission said that initially the Government was doing its best to finance small scale miners (including provision of grants) but it faced

the challenge of unfaithfulness among the small scale miners - so the initiative failed. Nevertheless, the Government is finding the best alternative to address the challenge.

- 3.1.9 He further added that in some cases the Government demarcated some areas to small scale miners from the expired prospecting licenses (PLs). However, the status of the resources remains unknown as explorers did not submit the reports of these areas to the government. Thus the major challenge is that small scale miners eventually work in unknown areas.
- 3.1.10 Another challenge is high costs of exploration to small-scale miners. He advised STAMICO (caretakers of the small scale miners) to assist them beyond drilling. He further advised use of less expensive conventional techniques in exploration to identify potential areas with mineral resources.
- 3.1.11 On financing small-scale miners, Mruma said resources were paramount. Efforts should be directed to resource mobilization.
- 3.1.12 He also added that there must be governmental and financial institutional frameworks of checking credibility of information. The Government has set up the Geological Survey as part of the initiative. Historical records must also be authenticated.
- 3.1.13 There are minerals whose resource evaluation is difficult, and there are those whose resources can easily be extracted, such as aggregates and sand. Small scale miners should be encouraged to invest in the latter group of minerals.
- 3.1.14 Commenting on information about small scale miners, he said the information about their number was available. However, there was a challenge of establishing roles of specific players. For example, most of the license holders do not mine, instead they engage unpaid laborers, then the minerals are divided among mineral site owners, license owners and laborers. In the end, it is difficult to establish correct statistics of the production. This practice needs to be stopped and formal mining should be emphasized.
- 3.1.15 On the financing of the mining sector, he said there were two risks: credibility of the information on resources and markets. Minerals like gold have no challenge in marketing, but the challenge is in resource estimation. The Government has done an evaluation on how to help small scale miners to access funds, but this process should be coupled with assisting them to establish their resources.
- 3.1.16 Makweba commenting on financing small scale miners said ‘small scale miners engaging in extracting sand, limestone and aggregates are known to the Government’, so the Government should classify minerals and issue licenses in accordance to mineral type.
- 3.1.17 He also advised banks to use geologists when doing due diligence. He emphasized teamwork between the Government and banks.

- 3.1.18 He further noted that interest rates and collateral were challenges on small scale miners' development.
- 3.1.19 Mbede pointed out identification of strategic minerals as an important step towards national development. She insisted that identification of strategic minerals was the most required prerequisite for an appropriate economic plan. Such minerals should not be intended for export but rather used in the country for advancing the identified area of development.
- 3.1.20 Mruma said gypsum and coal could be classified as strategic minerals because their impact on industrial operation is high.
- 3.1.21 Kabete emphasized the role of STAMICO in establishing databases for small scale miners, Geological structuring and production. Without such information, one cannot monitor mining development.
- 3.1.22 Asimwe from the Mining Commission commenting on financing small scale miners mentioned lack of resource estimation expertise as a challenge. She said there was a gap in the training of geologists as they are not trained to do estimation.
- 3.1.23 She advised banks to facilitate formation of small scale miners' SACCOS to enhance self-financing which is also less risky.
- 3.2 NMB Representative responded that it was tricky to finance exploration due to lack of due diligence expertise. The most reliable tool for predicting project life time was PFS but it costs about 1,000,000 USD which is unaffordable.
- 3.3 For Tanzania, a mining license cannot be used for collateral because it is not transferable.
- 3.4 He also said the bank was thinking of hiring bankers who had a geology background. They could be trained through field practical training and get experience that would qualify them to be hired as bankers.
- 3.5 He further said the interest was 17-19%. They reduced interest, so it is affordable. Currently the miners are borrowing from informal lenders for higher rates. The bank is thinking of how to recognize small scale miners e.g. by providing IDs that also have benefits like insurance and pension.

### **3.6 1<sup>st</sup> Panel Discussion Summary**

#### Challenges:

- lack of mining site (mduara) life time information
- unfaithful miners
- lack of financial records and poor financial management
- lack of information on marketability of minerals to banks
- lack of tax compliance
- presence of informal mining practices for small scale miners

- high research and exploration costs
- informal mining structures
- expensive resources and risky markets
- lack of reliable database for small scale miners and mineralized positions
- lack of expertise in resource estimation

### **3.7 Measures in place to address some of the challenges:**

- Banks are raising financial awareness among small scale miners (NMB has reached 1,000 miners).
- The Government is keeping records including statistics of minerals available in the market and it is ready to bridge the gap between small scale miners and financial institutions.
- The Government provides guidelines on small scale mining although there is still a challenge of compliance.
- The Government is finding the best small scale miners funding alternative. The 2015 initiatives failed due to abuse of funds by dishonest miners.

### **3.8 Recommendations**

- To raise awareness on financial management and tax compliance
- To promote awareness on available financial opportunities
- To strengthen cooperation among the Government, small scale miners, financial institutions and geoscientists.
- The Government to deliberately empower local junior companies
- The Government to mobilize both human and material resources to facilitate exploration
- The Government to strengthen resources on already existing easily extractable minerals building materials
- The Government to do pilot projects in order to identify suitable and practical mechanisms of financings small scale miners and research
- The Government to classify minerals and issue licenses according to mineral types
- Banks to use geoscientists to do due diligence
- The Government to identify strategic minerals
- STAMICO to establish a reliable database for small scale miners, geological structuring and mineral production
- Higher learning institutions to train resource estimation in order to build capacity
- Banks to facilitate establishment of small scale miners SACCOS to empower small scale mining and to reduce risk.
- Geoscientists to write on and publicize issues affecting small scale mining

3.10 The panel discussion was followed by presentations by the Tanzania Mining Commission convened by Dr. Kabete. The theme was Opportunities and Challenges in the Mining Sector.

### **3.10.1 Success of the Tanzania Mining Commission**

- Establishment of 41 minerals market and 50 mineral collecting centers
- Reduction of conflicts
- Increase in national per capita income from the sector (up to 7.7% from 5.1% recorded in 2018)
- Increase in revenues from 164 billion TZS in 2014/2015 to 528 billion TZS in 2019/2020 of which 200 billion came from Geita region.
- Strengthened contribution of small scale mining mainly because of existence of mineral markets

### **3.10.2 Opportunities in the Mining Sector**

There are promising investment opportunities in the following minerals:

- Bentonite this is being imported in large quantities but there are deposits in Mwanza
- Ferromanganese
- Iron ore: major usage in cement industries and available in almost all regions
- Silica rich sand is said to exist on the shores of Lake Victoria in Kagera. More research is required.
- Salt: coarse industrial salt is in high demand. It is imported from India. It is available in Tanga, Dar es Salaam, Manyara, Simiyu and other regions
- Graphite and Quartz: available in Morogoro
- Nickel, manganese: available in large quantities in Lindi
- Pozzolana stones in Kilimanjaro: this is an upcoming building material and less capital intensive
- Gold: available in many places in the country including Dodoma
- Industrial and construction minerals: they are in high demand and are not capital intensive

### **3.10.3 Discussion**

The presentation was followed by questions, comments, contributions, challenges and suggestions. Below are main issues discussed by the participants:

- What were the reasons for the rise of revenues?
- Whether or not there were statistics for gold reserve
- Whether it was possible to charge royalty fee according to miners' classes
- Whether it was possible to offer pre-license to reduce the risk of not finding mineral deposits

3.10.4 In response to these questions, Malembo said the increase in revenue was attributed to:

- increase in gold price
- existence of mineral markets which have also motivated more people to invest in mineral business

- increase in royalty by 2% for metallic and gemstones
- booming construction projects that demand construction minerals.

- 3.10.4.1 On gold statistics he also said there were statistics of exported gold and gold remaining in the country.
- 3.10.4.2 On classifying royalty according to the miner's scale, it was clarified that royalty is property ownership fee and not tax. Taxation classifies miners.
- 3.10.4.3 With regard to pre-licence Malembo said the Government provided a primary license because miners do not report when they find minerals, so research, extraction and production are all included in one license. The miner is given 90 days of which he/she could return the license free of charge if he/she did not find minerals.
- 3.11 Kazungu Jackson from Tanzania Bureau of Standards (TBS) commended the quality of Tanzanian salt in terms of chemical composition but pointed weakness in preparation procedures that cause salt to have water insoluble properties.
- 3.12 Abdulkarim Mruma commented on taxation of salt as a factor that is hindering development in this sector. Vendors find it convenient to export raw salt to Rwanda and Burundi because its importation is VAT free, while selling raw salt within the country involves VAT but to import is VAT free.

This session marked the end of Day One and ended at 6:28 pm.



## DAY TWO, 29<sup>th</sup> of October 2021

- 4.0 Day Two started at 9:05 am
- 4.1 The Dean of Ceremony welcomed the conference participants with individual presentations chaired by Prof. Evelyne Mbede
  - 4.1.1 Isaac Marobhe: Satellite gravity anomalies of Coastal Tanzania: Defining the sedimentary basins. It was advised this knowledge to be shared with institutions such as TPDC as it was an important information for policy makers.
  - 4.1.2. Remigius Gama: The anomalously-propagating South Kenya Rift in the context of the North Tanzanian Divergence Zone, East Africa.
  - 4.1.3. Mr. Sindi Maduhu: Improved Depth estimates of subsurface sources structures using 2D/3D modeling of potential field data: implications for Hydrocarbon exploration.
  - 4.1.4. Njakoi Mofor: Representative of the TGS Student Chapter presented Student Chapter activities
  - 4.1.5. Venosa Ngowi (TPDC): Overview of Petroleum sub-sector in Tanzania, TPDC projects
  - 4.1.6. Emily Kiswaka: Palaeodepositional conditions of Permian organic-carbon-rich deposits of the Helgeland Basin, offshore Mid Norway, based on elemental proxies and core logging.
- 4.2 The presentations were followed by panel discussion chaired by Isaack Marobhe with other panelists from TGDC, TPDC, EWURA and Ministry of Energy representatives. The topic for panel discussion was *Oil and Gas Potential in Tanzania and Energy Mix for Sustainable Development*.

### **4.2.1 Geothermal Potentials by Katto Kabaka - TGDC representative**

- 4.2.1.1 Kabaka said TGDC was established to facilitate harnessing of geothermal energy which has the potential of producing 15,000 Megawatts in the country.
- 4.2.1.2 The TGDC current manpower is 15 and others are in training. TGDC has networked with the USA, Japan and Iceland to develop human resources.
- 4.2.1.3 The on-going project is Lake Ngozi which is anticipated to produce 60 megawatts. So far, procurement of a machine with a capacity of drilling 2 kilometers has been approved.
- 4.2.1.4 In addition to that there are efforts to initiate other projects that can benefit from geothermal such as incubation machines, greenhouse, fish keeping and tourism.

### **4.3 Concept of Energy Mix**

4.3.1 Ngeleja Mgejwa, a representative of the Ministry of Energy introduced the concept of energy mix, saying it was a new Government direction towards sustainable energy production. He said each energy source has pros and cons in terms of availability, reliability and sustainability, hence, the importance of mixing them. The Government's priority is to make sure all investors are supplied with reliable energy and that to ensure availability of alternative cooking energy.

4.3.2 He added that the energy mix involves electric power and cooking energy. He said the available energy is 1600 Megawatts but the currently usable energy is 1255 Megawatts. The dominant cooking energy (by 70%) is charcoal. The target is to enhance thermo, oil, biomass, wind and solar energies.

### **4.4 Discussion on Energy Mix**

Mgejwa's presentation was followed by questions and comments from participants.

4.4.1 The first question was directed to TPDC where the participant wanted to know whether the country was going to build a refinery plant for refining crude oil from Uganda. The TPDC representative responded that Tanzania's role in the pipeline contract was to provide a line for transporting crude oil. Uganda is going to build a refinery plant, however, if economies of scale allows, Tanzania will also build a refinery plant.

4.4.2 Another participant wanted to know whether or not Tanzania has the capacity of finding oil. TPDC representative replied that out of 96 wells, 5 have potential of producing oil. The Rift Valley Lakes of Rukwa and Tanganyika have oil potential.

4.4.3 Participants also wanted to know whether or not the current energy policy is accommodating energy mix?

4.4.4 Other participants showed concern on operational procedures if geothermal energy was to be used for tourism. He supposed it was going to be under the Ministry of Tourism and that would affect TGDC operations.

4.4.5 It was responded by a TGDC representative that tourism is cascading effect but the main project will remain under the Ministry of Energy. Also on whether or not the current energy policy accommodates energy mix, it was told that the energy policy was amended in 2003 due to economic changes and in 2015 was amended to include energy mix. There is also a Power System Master Plan which is reviewed every 4 years.

4.4.6 Another participant wanted to know how sustainable energy is - since the national grid depends largely on gas power (by 60 %)? It was responded that by 2025 there will be 5000 Megawatts of which 2115 will come from JNHPP and the rest from renewable energy. TPDC added that they were complying to Domestic gas obligations

which require them to ensure the country has enough gas for domestic use before exporting it for sale.

- 4.4.7 The last question was about a thermo lake in Isake Morogoro which is near JNHPP. Is it possible to harness it and to integrate it in JNHPP and to integrate them in the tourism sector? The TGDC representative said they were aware of it and looking for possibilities but as to whether they can integrate into the tourism sector, he said there was a legal challenge since they are recognized as minerals and the law prohibits mining in national parks/reserves.

#### **4.5 Presentations after panel discussions**

- 4.5.6 Epifania Mutabazi: 2D and 3D lithosphere model of the southwest Tanzania Rift System, from geological and gravity data.
- 4.5.7 Sara Emanuel: Paleooceanographic evolution in the South China Sea from the Upper Pliocene to Pleistocene on the basis of calcareous nannofossil assemblages.
- 4.5.8 Nyora Kabare: Geochemical investigation of the fluid origin, subsurface processes and recharge with its implications to the Tangkuban Perhau geothermal conceptual model.
- 4.5.9 Athanas Macheyeiki: The Chenene ground fractures relay ramps and hot springs in the Bahi Basin bordering faults and implication for rifting manifestation and geo-hazards in the Dodoma area, Tanzania.

#### **4.6 Taxation in the mining sector**

The above presentation was followed by a brief discussion on taxation in the mining sector. Abdulkarim Mruma highlighted the current situation of taxation.

- 4.6.1 Mruma said normally all entities in the production divide the profits. There are two kinds of charges. Those which are charged on the basis of gross sales and income tax. Charges on the basis of gross sales include 6% royalty (for gemstone and metallic minerals); 1% inspection fee and 0.3% government levy. In total these make 7.3% of total sales. If we assume the profit is 30% total sales, these charges make 24.3% of profit. With regard to income tax, the deduction does not consider royalty. Royalty is a non-deductible cost. So the income tax is charged from the gross income regardless of the former deductions. The profit is also charged 16% free carried interest. Again when the shareholders are paid dividends, they are charged 5% for citizens and 10% for foreigners. There are also other institutional fees like OSHA that have not been mentioned. Generally, the taxation system does not attract investors in the mining industry.

#### **4.7 Discussion on taxation in the mining sector**

- 4.7.1 TGS VP commended the brief and advised TGS to write a thorough researched and analyzed document and present it to the government to address the problem.
- 4.7.2 A STAMICO representative supported the presentation and explained that STAMICO struggles to get stakeholders because of the 16% charges. Potential investors assume that since STAMICO is a government agency, then it is STAMICO that benefits with the 16% while it is not the case. It is not clear as to where the 16% goes.
- 4.7.3 One participant asked how existing companies survive these taxes. Mruma replied he was not sure but he thought the current system may trigger investors to cheat and emphasized that the existence of multiple entities dealing with minerals and unfavorable taxation hamper development. The 16% deduction from gross sales before deduction of 30% income tax is unfair.
- 4.7.4 It was further added that if the country was to reach the goal of earning 10% of national income from minerals, the following could help:
- a. The Government to undertake a modeling project in order to observe how taxation can affect project profitability. That project should include a financial model of 50/50 sharing of economic benefit. This will help to identify problematic areas.
  - b. TGS should be careful of its approach. If it goes with the taxation perspectives, the Government may not pay attention. The right approach would be “addressing the problem of slow growth of the mining sector”, and this should be accompanied with sufficient data that point to the factors hindering the growth of the sector. Analysis of the taxation should be thoroughly done because since the reforms there have not been any new mining sites or increase of investment in mining.
  - c. Another participant said that policy makers have sufficient data, so the Government should decide to invest in mining on its own or to reduce taxes in order to attract investors.
  - d. The participant further suggested the income tax to be calculated after deducting royalty; 16% charge be managed by STAMICO instead of Tanzania Revenue Authority. This will help to strengthen capacities of our corporations and facilitate partnerships. The 16% charges would be plausible if the Government had no stake.
  - e. Taxation should consider the multiplier effect. Investors who process their minerals within the country should be considered differently from those who process outside the country.
  - f. Additionally, we should not overemphasize tax reduction (we do not know what pushed the Government to impose 16% charges), rather we should urge the Government to strengthen control over procurement and expenditure because finance is not just about earning but also spending. Loop holes should be identified and controlled.

- g. Moreover, we should consider small scale mining and propose ways to improve it including making projections for it.
- h. Efforts should also be directed to all types of minerals because even building and industrial minerals are facing challenges. There are lots of loopholes in the local governments.
- i. Government attitude should change. The concern should not be on losing revenues but on the fall of investment in mining. It may even think of injecting funds to mining investments.
- j. For engagement technique, lobbying is the most viable. Highly competent personnel particularly in legal and economics professions should also be involved to add weight and credibility during lobbying.
- k. A participant also mentioned “pre-carrying interest” as a new charge. He wanted to know the reasons behind its establishment. He also urged equipment tax to be reviewed since they were not charged VAT but the 2020 Regulations are silent about it.
- l. The Government should also consider the effects of the current situation in the future, particularly the sustainability of the mining sites. There are signs that in 10 to 20 years to come there may not be new mining sites because there are inadequate efforts in exploration. If the business environment is improved, risk will be reduced and investors may be attracted to invest in research.

### **DAY THREE, 30<sup>th</sup> October 2021**

- 5.0 The Dean of Ceremony called for participants' attention at 8.30 am and welcomed them to listen to presentations by Joas Kabeta and Gerald Chuwa.
- 5.1 Joas Kabeta: The Geological-tectonic setting of the tectonic Front and Southern East African Orogeny of Tanzania: a motivation to exploration companies.
- 5.2 Gerald Chuwa: Geochemistry and petrography of intrusive sills from the Karagwe Ankolean Belt (KAB), Northwestern Tanzania: constraints on origin, tectonic environment and petrogenesis.

## **STAKEHOLDERS MEETING FOR PROPOSAL FOR THE TANZANIA GEOSCIENTIFIC REGISTRATION BOARD (TGRB)**

### **6.0 Stakeholders' meeting for Proposal for Tanzania Geoscientific Registration Board (TGRB)**

The two presentations were followed by stakeholders' meeting for Proposal for Tanzania Geoscientific Registration Board (TGRB) convened by Elisante Mshiu and Denis Mahimbo.

- 6.1 Mahimbo informed the stakeholders that their major role was to clarify issues that had been raised by other stakeholders who had read the proposal.
  - 6.1.2 The President's Office Public Service Management and Good Governance had the following concern: the main argument in the proposal for the board is presence of dishonesty. The proposal does not provide reasons for dishonesty, so the reasons should be identified in order to propose appropriate intervention measures.
    - a. Page 1 second paragraph about the board's responsibility needs to be corrected.
    - b. Page 17 Section 8 Table 1 does not provide a solution for lack of qualifications; Section 2 causes of lack of qualifications should be identified.
    - c. It was clarified that certification is a common practice worldwide. Universities impart theories but geoscientists need practical knowledge and be certified thereafter like lawyers, accountants etc. after graduation. In addition, not all graduates prefer to practice geology. Those who want to practice will be certified. The few certified geologists in the country have been certified by other countries' boards such as Australia, Canada and South Africa. There are also people who identify themselves as geologists but they do not have such professional knowledge. The board will check and control the profession.
    - d. Section 5 and 9 contradict each other in the sense that one points out the budget deficit due to dependence on sponsors and the other says the board will use the same sources which are not sustainable. The proposal should identify sustainable sources of funding. It was replied that there will be a consultancy certification fee of 5%. The board will also be stamping projects at a fee. All project members may be registered and even be given temporary registration at a fee. The board also will be doing chargeable professional and ethical training.
- 6.1.3 What mechanism will be used to manage board's certifying officers? They will be asked to submit copies of the documents they certified over a certain period of time for review.

- 6.1.4 The title does not reflect sedimentary rocks geologists so the Ministry of Energy should be included. It was responded that all geoscience professions had been included, but for registration to be processed there must be “a mother ministry.” For example, all engineers are under the Ministry of Construction regardless of their specializations.
- 6.1.5 Historical background of professional certification should be included in the document. The board will regulate professionalism. Dishonest geoscientists trace passes due to the inexistence of the regulatory body.
- 6.1.6 Reports may contain technical errors. The board will review reports. This will reduce or highlight technical errors in scientific reports.
- 6.1.7 Section 9 (2) should identify active Tanzanian geologists in and outside the country.

## **6.2 Comments from the Ministry of Water:**

- 6.2.1 They have commended the thought of establishing a body that helps to regulate geoscience human resources. Without a regulatory body, uncertified geoscientists work below standards. Also investment laws allow foreign geologists to work in the country. In order to build regional and international co-operations, the board will facilitate communication and also the database will help in improving welfare, to update professional knowledge and to build capacities in accordance with technological changes.

## **6.3 Comments from the Ministry of Livestock:**

- 6.3.1 The board should state strategies for financial independence.

## **6.4 Comments from STAMICO:**

- 6.4.1 They support the establishment of the board and recommend the board to include registration of outside the country geologists, and in-country geologists, who endeavor to undertake projects outside the country should be certified by the board at a fee. This is the practice in other geoscientists’ boards across the world like Australia Institute of Mining.
- 6.4.2 On TGRB structure, the Executive Officer should be identified as Registrar.
- 6.4.3 In page 17 section 8, zone/region is not clear as to whether it is referring to inside or outside the country.
- 6.4.4 In section 9 the word *auditors* does not define the type of auditors. It should be made clear that it is geoscientists.
- 6.5.5 Section 9.1 on financial resources the board's headquarter should be identified and rental expenses be budgeted. To start, the office can be in one of the Ministry’s buildings, preferably the New Mining Commission Building.



6.5.6 Sponsors to be replaced with development partners.

**6.6 Comments from UDSM:**

6.6.1 Page section 7.2 the structure of the board lacks appointing authority. The authority should be the President.

6.6.2 Page 18 section 2 on partners add 'development' and read as development partners from within and outside the country.

6.6.3 'Below standard without professionalism' should be 'below standard'.

6.6.4 There should be sources of funds for running the board.

6.6.5 AU and EAC should be in long forms.

6.6.6 On funds: exploration projects should charge fee from companies that come with their experts from abroad, where such fees would be charged annually and increase as they continue to stay.

**6.7 Comments from NEMC:**

6.7.1 The kinds of reports to be certified should be identified' for example, Environmental Impact Assessment Reports contain different geological information including a geological report, geochemical characterization study, geotechnical study, geophysical survey and ERT. Often these reports are not prepared by geoscientists but engineers. Once identified, an investor will be required to certify the report before submitting to NEMC. Geoscientists from abroad should also be certified by the board. North Mara is an example of the projects that were not certified by the board. TSF in North Mara was built on deformed (fractured rock) that caused leakage issues.

6.7.2 On 11 (b) before issuing a license there must be registration first.

6.7.3 Page 13 what will happen if there is no board? Geophysical reports have been done under engineers. This weakens the geoscience profession.

6.7.4 Add a provision on 120,000 TZS annual fee that says fees may change in accordance to circumstances and include different categories of geoscience that will have varying fees.

**6.8 Comments from TPDC:**

6.8.1 On sources of funds, there may be an editorial unit that will charge submitted papers; there should also be mandatory seminar series at a fee; also a consultancy and service fee whereby anyone who wants to provide geo-service must pass through the board. The board itself can also do consultancy.

6.8.2 The composition of professionals should be more specific (geological professionals is too broad).

6.8.3 In section 8, all entities involving geologists must be included, for example Ministry of Finance and financial auditors are missing.

#### **6.9 Comments from PURA:**

6.9.1 Geoscientists' statistics have included those from UDSM. Those from UDOM should also be included.

#### **6.10 Comments from Dangote Cement Company:**

6.10.1 The board should recognize unemployed geoscientists, and inquire their information in order to help with evidence when investors intend to come with their geoscientists.

#### **6.11 Comments from Tanzania Mining Commission:**

6.11.1 TGRB will simplify recognition of certified geoscientists and hence enable investors to get relevant geoscientists.

6.11.2 On Responsibilities of the Board: pg. 4 (i). To develop, provide opportunities and conduct research.

6.11.3 Page 14 (ix) should read as to propose guidelines for ranking instead of to make and to coordinate.

#### **6.12 Ministry of Energy**

6.12.1 Remove the word “gemstone” because it is already mentioned.

6.12.2 Add the relationship of the board with other organs on page 16.

6.12.3 There should be indicated potential challenges if the board will not be established.

6.12.4 Replace geoscience works with Geoscientific work on number iii of page 16.

6.12.5 About the board being the license issuing authority, how does the board distinguish itself from the Mining Commission? Authority of regulating training quality may interfere with TCU. This was clarified that the board will be reviewing training programs.

#### **7.0 Closing of the conference**

7.1 The TGS Vice President Joas Kabete was welcomed by the Dean of Ceremony to give closing remarks. The Vice President appreciated the new things learned from different presentations and added that the presentations had informed academic, research and explorations. He also commended TPDC and Tanzania Mining Commission for

majority representations. He finally welcomed the TGS President – Abdulkarim Mruma.

- 7.2 Mruma commended the participants for their active participation and encouraged more participation. He further urged geoscientists to be open minded and participate freely.
- 7.3 He also said there was a need for assessing TGS current position and how the performance is going to improve, ethical wise and financial wise. Dependence on mining institutions is not sustainable.
- 7.4 On TGRB, he urged stakeholders to submit their opinions by Monday 2<sup>nd</sup> November 2021 through TGS Secretariat.
- 7.5 As response to the Ministries' concerns on the proposal, he emphasized proper responses to avoid setbacks. He acknowledged that the document had been written in the past years but there was room for reviewing the document. He also thanked the TGS Secretariat for good preparations. He declared the conference closed at 13:08 p.m.

## **TGS ANNUAL MEETING**

8.0 The TGS annual meeting was officially opened by the TGS President, Abdulkarim Mruma at 14:30 p.m. with the following agenda:

- (a) to present TGS financial audit report
- (b) to report TGS 2020/2021 activities
- (c) to brainstorm the way forward concerning TGS bank accounts
- (d) to discuss strategies to establish TGS permanent physical office
- (e) to discuss the establishment of training and research institute
- (f) to discuss TGS journal plans
- (g) to elect new leaders
- (h) to close

### 8.1 TGS Financial Audit Report

8.1.1 Mary Moshi presented an audit report. She said in 2020 TGS had a total income of 118,784,630 TZS and a total expenditure of 113,940,299 TZS whereas 40,781,500 was spent in the 2020 annual conference held at Mwanza.

### 8.2 Comments on the report:

8.2.1 There was a need to diversify income, as there was too much dependence on donors. There should be established annual projections.

8.2.2 It was asked whether TGS had strategic plans and if not, it was suggested to have, and be reflected in financial reports.

8.2.3 It was asked whether the audit report was accessible.

8.2.4 It was commented that surplus income of 6,107,934 was too little and suggested an establishment of a consultancy firm to enrich the fund.

### 8.3 Responses:

8.3.1 The TGS Secretary acknowledged the need for diverse income and explained how they struggled to finance annual meetings. He suggested members to do consultancy in the name of TGS and pay some fee. If agreed, guidelines should be made.

8.3.2 The TGS President agreed on establishing fund raising strategies.

8.3.3 He also agreed with improving financial report format, particularly to start with planned annual activities, actual activities and actual expenditure.

8.3.4 The TGS Secretary proposed members to consent in the meeting to start a consultancy firm, or wait to be tabled in the next meeting, or chairperson to do on behalf.

8.3.5 Contributing to improving funding, a member proposed that TGS have a mining firm where all members will be shareholders.

- 8.3.6 The TGS President commended the idea and suggested investing in industrial and building materials as they are easier to manage.
- 8.3.4 A member commenting on sustainability of financial plans, had an opinion that TGS should employ a business planner, who would look for opportunities and be responsible for writing bidding documents. TGS could start by using volunteers as it is expensive to hire a competent person.
- 8.3.5 Another member suggested the use of available networks and information. TGS should also strategize on how to use unemployed geoscience graduates.
- 8.3.6 Adding on funding strategies, a member suggested TGS to start offering training since they are demanded by on duty geoscientists.
- 8.3.7 It was also suggested that TGS should respond to calls for proposals.
- 8.3.8 Commenting on the proposal to start a consultancy firm, a member cautioned that there were financial implications for starting a firm and the fact that most of the members were already occupied, there will be a need to employ, which is impossible without sustainable sources of funds; so a thorough assessment should be done. He added that there were 500 members but hardly 70 members were paying membership fees. He urged representatives to encourage other members in their respective institutions to pay membership fees.
- 8.3.9 The TGS Secretary concurred with the above suggestion and urged members to value the importance of their membership to TGS and added that employers could contribute for their employees. TGS could also use interns.
- 8.3.10 Chone Malembo explained some of the issues that had been raised in the financial audit report. He said the TGS registration fee had been paid until 2022. He added that they could not retrieve past records due disorganized filing caused by movement from Dar es Salaam to Dodoma.
- 8.3.11 On the question of some transactions to lack EFD receipts, he said they were working on it.
- 8.3.12 Commenting on the issue of non-compliance with VAT, he said in order to comply there must be an accounting and procurement manual to guide payments. Efforts were underway. The President emphasized compliance to rules and regulations of registration to avoid legal measures against the society. E.g. paying membership fee and submitting financial reports.
- 8.3.13 Commenting on the composition of the executive committee, Malembo said the composition was proper but there was a room to form committees for different activities.
- 8.3.13 Reporting on TGS plot, Malembo said TGS had requested for a plot to build its office in Dodoma in 2018 and the former Prime Minister consented and directed the

respective Ministry to provide the plot. They were still following up. By then, they were thinking of acquiring 2 plots in the Vikonje area with sizes 943 and 632 sqm respectively. So far 10,000,000 TZS installment had been paid.

- 8.3.14 Malembo asked the Annual Assembly to consent on activating the dormant NBC account in order to withdraw money. They needed to endorse signatories and members to suggest having both NBC and CRDB accounts or remain with one.
- 8.3.15 Members suggested existing signatories to be endorsed.
- 8.3.16 A member asked whether TGS was a company or an association and Malembo replied TGS was an association. The word company in the report was an error.
- 8.3.17 The TGS President emphasized the need to seek professional accounting and procurement advice and adhere to accounting and procurement regulations. He also suggested opening an account with NMB as they were becoming good partners.
- 8.3.18 A member emphasized a need to maintain the current signatories for accountability purposes. He also concurred with opening an account with NMB, who had shown interest in the mining industry.
- 8.3.19 The TGS Secretary informed members of the physical address. He said it was temporarily at UDSM. They had not succeeded to opening an office at Dodoma and he proposed to build a small structure in the available plots.
- 8.3.20 A member advised TGS to request to build a hall as it was easy to get a building permit.
- 8.3.21 The Vice President advised the Secretariat to establish a timeline for effecting projects since the TGS had financial constraints.
- 8.3.22 The TGS President advised to start a fundraising committee.
- 8.3.23 The TGS Secretary informed the members that implementation of the plan to start a training institute would start by writing a proposal to establish a consultancy company and a training institute within 3 months. There was an idea of training small scale miners.
- 8.3.24 He also informed members that he was going to start a TGS WhatsApp group which had the capacity of hosting 250 members.
- 8.3.25 It was also suggested that non-active members be encouraged and representatives for each institution were selected:

GST -	John Kalimenze;
Ministry of Energy -	Sebastian Shana;
NEMC -	Abel Sunbella;
Tanzania Mining Commission -	Ngasa Joachi;
TPDC -	Erick Kivera;

STAMICO -	(to bring the name later)
UDSM -	Emmanuel Kazimoto;
RUWASA -	Renatus Manoga;
Ministry of Minerals -	Deogratius Oreku;
Private sector -	Menrad Sanga;
TANESCO (no repr);	Elieza Wangwe;
UDOM -	(no representative)

## **9.0 TGS Training and Research Institute Plans**

- 9.1 The institute will be known as Abdulkarim Mruma Training Institute of Geosciences or TGS Training Institute.
- 9.2 Kazimoto said some of the members had enormous professional and work experiences that was not shared among TGS members, and that there was insufficient sharing of such knowledge and experiences. The institute would bridge such gaps. The institute will be useful for sharing new knowledge and for passing knowledge to upcoming generations.
- 9.3 The Secretary elaborated on the question of institute's name and said one option was to name it Prof. Mruma to honor him and as a marketing strategy.
- 9.4 A member insisted on timeframes and prioritizing projects.
- 9.5 Contributing to the sustainability of TGS, another member said the associations are active when they have diverse activities instead of just annual conferences/meetings. He also said that training and research could still go on while the process of establishment of the institute was underway.
- 9.10 Another member had the opinion that training will conflict with the TGS role. TGS will die if it is not active, so training should be part of TGS activities to make it active.
- 9.11 The TGS Secretary responded that training will not be a separate institution but a formal entity within TGS and with a specific coordinator.
- 9.12 A member suggested TGS to include technicians, and TGRB be exclusively for geoscientists. This idea was commended but it should wait until the TGRB process was over.
- 9.13 Another member advised the secretariat to cite examples from other countries, e.g. South Africa and Australia, which have both associations and boards. There is a need to have a clear linkage between the two.

## **10.0 TGS Journal Plan**

- 10.1 Kazimoto presented a plan for establishing a journal. He said the Journal of Geological Society of Tanzania collapsed after one issue of 1997. Since every year

members present, it was seen that a journal be revived. In initial steps, information on the former journal was retrieved; the website had been constructed and strategies to maintain it had been put in place.

- 10.2 Kazimoto proposed 12 publications to be published annually and be presented to the annual conference. The journal would also provide opportunities for special issues such as honoring members. It would also serve university communities since there is a lack of exclusive geosciences journals. There are also potential contributors from the East Africa region.
- 10.3 He added that the existence of the journal was a way of placing Tanzania in the world of geoscience. A professional society that does not publish does as good as not exist.
- 10.4 A member suggested the journal to include both research and best practices and non-geoscience papers which have geo-inclination.
- 10.5 Another member suggested that members pay a subscription fee but this was declined since it might hinder university members from submitting their papers as pay journals are discouraged.

#### **11.0 Election**

- 11.1 A member suggested the current leaders continue in order to avoid hampering the on-going processes of TGRB, land acquisition, office establishment etc. Majority of members concurred.
- 11.2 The Vice President informed the members that the treasurer, Mary Moshi, was going to start PhD studies in Japan in December 2021.
- 11.3 It was agreed that the Secretariat would nominate and suggest the name to the members later.
- 11.4 Students' coordinators were directed to elect their leaders and submit the names to the secretariat within the first week of November 2021.
- 11.4 It was agreed that the next conference would be held in Arusha.
- 11.5 The meeting was closed at 5:28 p.m.