



Local Transformation of Natural Resources for the Socio-Economic Development of DR Congo: Assets, challenges and perspectives

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► To cite this version:

Jean Kabulo, Trésor Hubert, Innocent Mufungizi, Roda Bongeli, Ridi Dia-Kondua. Local Transformation of Natural Resources for the Socio-Economic Development of DR Congo: Assets, challenges and perspectives. FORUM GEOSCIENCES SIXTH EDITION, GEOSCIENCES CLUB; DEPARTMENT OF GEOSCIENCES; University of Kinshasa, Nov 2021, Kinshasa, Congo - Kinshasa. 10.5281/zenodo.10501050 . hal-04393846

HAL Id: hal-04393846

<https://hal.science/hal-04393846>

Submitted on 15 Jan 2024

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GEOSCIENCES CLUB

UNIKIN



REPORT OF THE SIXTH EDITION OF THE GEOSCIENCES FORUM

Theme

**LOCAL TRANSFORMATION OF NATURAL
RESOURCES FOR THE SOCIO-ECONOMIC
DEVELOPMENT OF DR CONGO: Assets, challenges and
perspectives**



From Wednesday 10 to Thursday 11 November 2021

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Local Transformation of Natural Resources for the Socio-Economic Development of DR Congo: Assets, challenges and perspectives

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Abstract

Background: The Democratic Republic of Congo is a country very rich in mineral and non-mineral raw materials, it is described as a "Geological Scandal". The Congolese soil and subsoil contain a very great diversity of natural resources, notably strategic minerals, water resources, the three oil basins of which only one is exploited, large areas of arable land, and others. It has large reserves of copper, cobalt, zinc and several other minerals which make it one of the major producers in the world. However, despite this diversity and these particularities in all areas, notably: geological, forestry, hydrological, agri-food and others, the DR Congo is on the list of the poorest countries on the planet. It is ranked by the World Bank among the 5 poorest nations in the world in 2022, which is a worrying dilemma. **Aim:** Developing countries focus on industrialization, this taste shows its first steps at the beginning of the 18th century, a period during which all the great powers turned to the search for metals and especially advanced ores for their technological development and to enable social progress in its various aspects, even in the fields of science. It is on these pillars that our motivation is based. This work is a major contribution to the objective of diversifying the Congolese economy, sustainable management of raw materials, and the fight against fraud in the mining sector. **Methodology:** We involved the different trends, notably: (i) political decision-

makers, (ii) scientists who are researchers in universities, (iii) technicians who are in practice in the field, (iv) entrepreneurs, (v) civil society, etc. This is from the perspective of understanding, based on an overall analysis, where the DRC can begin to develop, especially with the political will. The contribution of each stakeholder was a way for us to understand the causes of poor living conditions of the population which is paradoxical to what is sold as the wealth of the soil and subsoil of the DRC with a view to offering it a lasting and immediate solution.

Observations: The lack of political will is the blockage for the Congolese population to benefit from its natural resources; the lack of execution capacity by state institutions is hampering the development of the DRC. All Congolese, mining companies and politicians must understand the concern of the country which continues to be the shame of the 21st century. We must all awaken our conscience, in order to bring our country out of this paradoxical hat: "country rich in natural resources, with a very poor population". **Recommendations:** Some recommendations were made. In broad terms, we have: manage partnerships with mining companies, fight against mining fraud and insecurity in the DRC, rationally manage natural resources, ensure geological knowledge of the DRC, have leaders with the capacity to execute effectively.

Keywords: Local processing, natural resources, mining, developing countries, industrialization

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1. INTRODUCTION

The Democratic Republic of Congo is a geological scandal that has long been advocated. The Congolese soil and subsoil contain a very great diversity of natural resources, in particular strategic minerals, water resources, the three oil basins of which only one is exploited, large areas of arable land, and others (DR Congo Government, 2018). However, despite this diversity and these particularities in all areas, notably: geological, forestry, hydrological, agri-food and others, the DRC is on the list of the poorest countries on the planet (World Bank, 2023).

Indeed, it was very important for us to present this report from the sixth edition of the Geosciences Forum which had as its main theme "The local transformation of natural resources for the socio-economic development of the DRC: Assets, challenges and perspectives". This taste for industrialization shows its first steps at the beginning of the 18th century, a period during which all the great powers turned to the search for metals and especially advanced ores for their technological development and to enable social progress in its various aspects, even in the fields of science.

These two-day meetings organized in the MON-EKOSSO/UNIKIN room were intended to listen to political decision-makers, scientists, economic operators working in the mining sector and experts from different fields in order to propose sustainable solutions. The major concern is improving the living conditions of the Congolese by creating new strategies to overcome this

paradox: Country rich in natural resources with a poor population.

The Geosciences Club wants a prosperous and emerging Congo with a clean industrialization policy which seems to be one of the adequate solutions to the problems which are ruining the Congolese population and which make the DRC one of the poorest countries on the planet.

The local transformation of natural resources with added value to the economy is independent in the sense that industrialization increases revenues. Most of our raw materials are still exported in their raw state, isn't that one of the reasons for the poverty in which the Congolese population is languishing? This transformation, which is one of the drivers of the social stability of a country, remains a theoretical aspect to this day.

The Democratic Republic of Congo is recognized as an importing country in several areas, which only increases the price of imported finished products in the event of a shortage among our suppliers (Jacquemot, 2009). We therefore ask ourselves the following questions: What policy should be adapted to eradicate this problem? What types of investments and partnerships does the DRC need? What are we lacking, the means or the political will? The answer lies with decision-makers.

Expectations of the Geosciences club: At the end of this forum, the Geosciences Club expects palpable results, real achievements and improvement in the living conditions of the population; the creation of jobs for Congolese youth, and the happy destiny of this beautiful country at the center of the world with great potential

2. PRESENTATION

In fact, we established 26 sub-themes which arose from the theme of the main theme. But we retained 13, this is due to the availability of the speakers according to their agendas. These sub-themes are divided into 4 panels, which are: The exploitation of natural resources and their local transformation; Rational management of natural resources; Issues of industrialization and political will in the DRC; Problems of supervising Congolese youth.

2.1. Problem of Access to Safe Water: Fight Against Pollution of Water Resources for the Sustainable Development of the Democratic Republic of Congo (UNESCO). Speaker: Engineer Jadot KASONGO, UNESCO

UNESCO seeks to establish peace through international cooperation through its 5 areas of expertise: Education,

science, culture, communication and information for sustainable development, Agenda 2020. Thus, with

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regard to natural and exact sciences, strategic objective 4 has been established, which consists of strengthening systems and policies in science, technology and innovation at the national, regional levels and global. Strategic objective 5 is for natural resources to promote international scientific cooperation and address the major challenges of sustainable development. It is for these reasons that UNESCO implemented the IHP

(Intergovernmental Hydrological Program) in order to: Mobilize international scientific cooperation; Strengthen the science-policy interface; and facilitate education and capacity development. In other places, water supply is experiencing more problems, including: Conflict, climate change, increasing water scarcity, natural disasters, demographic change (anthropogenic activities), and urbanization.

2.2. Problem of Transformation and Valorization of Natural Resources. Speaker: Professor Adalbert-Jules MAKUTU MA NGWAYAYA, Principal Advisor to the Head of State on Hydrocarbons and Ordinary Professor at the University of Kinshasa

Regarding the transformation of the mineral resources of the DRC, I remind some and inform others that several conferences have already taken place in this country to examine the modalities of transformation of our resources in order to valorize them for their sale. The fifth edition took place here in Kinshasa from October 27 to 28, 2021 during which we examined the posture that the DRC should adopt to make the most of its mineral resources. The exchanges therefore constituted an important contribution to the rectification of the current model of the management of the latter which consists of exporting raw materials and then importing finished products in a global context dominated by the energy transition. Today, the DRC must develop an industrialization policy for the local treatment and transformation of its minerals.

The current desire of the government is to clean up this mining sector to capture as many benefits as possible from the country's mining operations.

This desire can only have the desired effect when added value is made on our ores. The world is today in the phase of energy transition which requires significant mineral resources available to our country. This energy transition offers two opportunities to the DRC: - increased income thanks to the rise in prices of strategic minerals, notably cobalt, lithium, coltan, copper, - local processing of these minerals.

However, it must be said that the country can only restart if it adds value to its mining products because increasing revenues alone will not be enough to achieve integral development.

To achieve this, we therefore need a political vision, a new strategy and a new way of acting to allow the country to develop like other countries in the world. It is through the local valorization and transformation of natural resources before their export that the DRC will achieve this. Mining, whether industrial or artisanal, constitutes to this day the key to the economy of the DRC because most public revenue comes from this sector.

The state must adopt a new policy focused on industrialization for local processing and development of the country's precious and semi-precious mineral substances.

The DRC will have to consider this local transformation of its mineral substances as the one and only way currently capable of reviving the industry throughout the country with a view to economic diversification. There is thus a relationship between the local processing of mineral substances, industrialization and development by placing the role of science, technology and human resources in the success of the policy of local processing of the country's mineral resources.

Companies must contribute to the valorization of substances

minerals, local content and subcontracting. The valorization of mineral substances from artisanal mining faces security, technical, financial, social and infrastructural challenges. The government must play its role in formalizing the development of artisanal mining areas and in supporting the conditions required for the local processing of minerals from these areas.

The Congolese state will need to be able to effectively apply the law on subcontracting and adopt the reporting

mechanism on local supply in the mining sector as in Senegal (Ministry of Mines and Geology).

2.3. Mechanisms to Fight Against Mining Fraud in The DRC Through Expertise, Evaluation and Certification of Mining Products: Status and Outlook. Speaker: Daniel NGOIE MBAYO, Technical Director of CEEC

The Democratic Republic of Congo is:

- The world's leading producer of cobalt, a strategic raw material for the automobile industry, cobalt is used to manufacture lithium batteries for electric cars. The DRC's cobalt reserves are estimated at nearly 60% of world reserves (Direction Générale du Trésor, 2020);
- Leading African producer of copper and holds the second largest copper reserves in the world with 10% of the total reserves recorded on the planet;
- Major global producer of coltan, a black or red-brown ore, which is an essential component of mobile phones.

So, the CEEC (Center of Expertise, Evaluation and Certification of precious and semi-precious mineral substances) is in a sector, it is the mining sector which is essentially at the heart of the Congolese economy, our GDP (Gross Domestic Product) is based on mines. Hence, today, we must think about diversifying. This sector is governed by the mining code, it has its enforcement measures through the mining regulations and then all other regulatory texts which govern it around different designated services including the CEEC.

a) Inventory

The Congolese state loses through fraud more or less 30 tons of gold from artisanal production per year, estimated at the value of 1,100,000,000 USD, while the DRC only captured 200 kg for the year 2019, making a value of 7,100,000 USD, a loss of 1,092,900,000 USD or 99% of the losses in billions of US dollars.

Artisanal mines in the RUBAYA Territory with large coltan production are closed following insecurity and border conflicts.

b) Outlook

- Secure conflict mining zones;
- Establishment of the initiative for the traceability of artisanal gold (ITOA) to supervise this sector;
- Work with the central bank which will provide capital and material means to absorb the products of artisanal production;
- The industrialization of the mining sector in artisanal mining areas to reduce unemployment and make this sector viable;
- Establishment of gold refineries to add value to our mineral resources.

2.4. Impact of the Transparency of Extractive Industries on the Country's Economy: Review of the Implementation of the EITI 16 Years After the DRC's Adhesion. Speaker: Franck NZIRA, EITI DRC

This structure (Extractive Industries Transparency Initiative) is made up of the Government of the DRC, extractive companies and civil society organizations, which act together to promote transparency and good governance in revenues from extractive industries. extraction of the mining and petroleum industries.

Here are the important points to note:

- EITI RDC plays a role in the transparent management of the DRC's natural resources, which are a common good;

- It is a platform that makes exhaustive and reliable information available to the public that can be used by citizens;
- Invitation to all to use this tool for greater accountability of leaders and more usefulness of our natural resources;
- Invitation to the academic world to take an interest in the EITI and judiciously use the information it discloses;

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- Encouragement of participatory and inclusive dialogue to resolve and transform the resource curse into effectively beneficial wealth;
- In the digital age, rethinking industrialization options;
- NR are not eternal, realize that they must be exploited prudently and rationally for sustainable development of the DRC for the benefit of present and future generations.

2.5. The Contribution of the Mining Cadastre in Mining Activities on the Effectiveness of Sustainable Development in the DRC. Speaker: Paulin MAWAYA, Mining Cadastre (CAMI)

Sustainable development is part of a long-term perspective by integrating ecological and social constraints into the economy which are its pillars (UN, 2020). The Mining Cadastre is a public register whose mission is: the management of the mining domain and mining titles. Mineral deposits are classified as mines and quarries (article 2 of the mining code) (Mupande, 2020). Classified as Mines are deposits or deposits of mineral substances not classified as quarries, other than liquid or gaseous mineral fuels. Classified as quarries: deposits or deposits of non-metallic mineral substances usable as construction materials, stones and viability of the ceramic industry. The speaker placed emphasis on limestone, of which cement is classified as mines.

The main role of the State is to promote and regulate the development of the mining sector. The State ensures the development of mineral substances which it owns by appealing in particular to private initiative in accordance with the provisions of the Mining Code. The speaker added that as the State is the owner of the soil and subsoil, it must ensure this development.

The speaker presented the inventory from colonial times to the present day, the elements below of which affected the entire room and specifically the geologists.

- Only 17 hours of the country's surface area is mapped;
- The coverage rate in regular geological maps is still very low. It does not exceed 3% for maps at a scale of 1/200,000;

- A single synthetic geological map at 1/2,500,000 has been updated with an inventory of mineral substances. This map was published in 2015 with the Ministry of Mines and the support of a few mining companies;

- Geophysical coverage is sporadic, disparate and not integrated across the entire territory;

- The situation is worse, geochemical coverage is non-existent.

The management of the mining sector in the DRC requires the implementation of a new business model which involves:

- The improvement of basic geological infrastructure by the government, which according to the speaker blocks funding;

- The mobilization of considerable capital, risk-taking by the private sector and greater legal certainty. He explained that we must provide legal, environmental and social security to investors;

- The industry's use of modern exploration concepts and techniques.

He added in short that if the mining sector is not developed, the country will not be able to evolve in the technical sector and if all these conditions are met, the country will be able to evolve well.

2.6. The Contribution of FOMIN in the Socio-Economic Development of Youth. Speaker: Adrien MWENYEMALI, League for Transparency in the Mining Sector (LITRASE ONG)

Here is the information to remember about the history of the funds:

- 1st Fund was created in 1876: Texas Permanent School Fund (Texas State Historical Association, 1976);

- In Africa, in 1994: Pula Fund (Botswana), first country to set up a fund in Africa;
- We have 91 funds in the world, including around twenty in Africa, listed by the National Institute of Natural Resources Funds;
- In Africa, the Revenue Regulation Fund in Algeria is 77.2 billion USD;
- In first place, we have the Norwegian fund: Norway Government Pension Fund Global which is 1.186 billion USD.

It was in 2018 that the DRC thought of setting up a fund for future generations, which according to speaker Adrien MWENYEMALI would mean that for all these years, resources were only used for the present.

It is the mining code of March 9, 2018 and the mining regulations of June 8, 2018, in articles 8 bis (Institution and regulatory reference) and 242 CM and 526 RM (Source of financing) which established the fund and which referred to the issuance of a decree from the Prime Minister which took place on November 25, 2019 (decree No. 19/17) establishing the status, organization and operation of a public establishment called the Mining Fund for Future Generations.

The speaker noted that the decree was taken unilaterally without incorporating the opinions of other stakeholders. The weaknesses of the decree are as follows depending on their nature (Table 1):

Table 1. Weaknesses of the FOMIN decree

Juridical nature	Mission and objectives
<ul style="list-style-type: none"> - Strong dependence on the Supervisory Ministry; - Strong involvement of public authorities; - Risk of suffering the fate of other funds (FPI, FONER, FF, etc.) 	<ul style="list-style-type: none"> - Monopoly of the National Geological Service of Congo - Risk that the financing process is cumbersome and arbitrary; - Lack of precision on "basic infrastructure".

Solutions

Juridical nature:

- Sus generis public establishment following the example of the EITI National Committee;
- Guarantee sustainability, transparency, autonomy and efficient management.

Missions and objectives:

- Education: Excellence and performance scholarship;
- Youth empowerment: youth project; credit to youth businesses; encourage, support and finance youth subcontracting companies;
- Basic infrastructure: construction of primary and secondary schools, maternity wards and health centers.

Recommendations

To try to save these funds:

- There needs to be a round table on FOMIN involving young people. The speaker adds that in all meetings, young people are put aside while the generation of the future is that of youth, pointing to those present in the room;
- The decree must be notified by integrating the opinions of stakeholders. He adds that the decree has many gaps that he could have developed well if time would have allowed;
- Carry out objective recruitment of young leaders, prioritizing young people and women.

2.7. IVANHOE MINES in DRC, Update on KAMOA and Exploration Projects. Speakers: Guy NZURU, Nestor KAMBAJI, Christelle NKULU, Professor Jean-Pierre NZURU NSEKERE.

Around the copper belt, we have several copper-cobalt deposits from Zambia to KOLWEZI. He explains how the KAMOA and KAKULA deposits were discovered, emphasizing the need to explain the reason for the void noticed in the region taking into account the LUMWANA, SENTINEL and KANSANSHI deposits. They found that it was abnormal for the arc to leave from LUANSI, stop at Kolwezi and return to Zambia, leaving a gap at KAMOA and KAKULA.

The difficulty of discovering these deposits is explained by the speaker by the fact that unlike other deposits discovered well before which have rocks outcropping on the surface, they are covered with sand, hence the difficulty of making a geological map.

The methods used were airborne geophysics, aeromagnetism, radiometry, the geophysics of which clarified the areas where the studies had to be concentrated, the geochemistry of stream sediments and soils which resulted in the prospect of areas with high concentration of electrons then drilling. It was in 2008 that the KAMOA deposit was discovered, after 4-5 years of research, which is one of the largest high-grade copper deposits in the world.

When the deposit is discovered, the role of electricians begins. In this case, it concerns the rehabilitation of

SNEL infrastructure, hence a partnership. This involves making a loan to SNEL, after consumption, IVANHOE pays to SNEL and the latter reimburses the pre-financed money. We can remember this about agreements and organizations:

- Aim to rehabilitate existing SNEL infrastructure in order to release the power requested by mining customers (KICO and/or KAMOA);
- The partnership is based on a financing agreement signed between SNEL and IVANHOE;
- Reimbursement of the loan is made by reducing the amount of monthly energy consumption bills;
- The electrical energy sales contract is one of the specific agreements supporting the financing agreement;

SNEL signed an EPCM contract (EPCM: Engineering, procurement, construction and management) for the conduct of the tender process and the supervision of project execution;

- A steering committee of partners supervises the execution of the project.

In the summary description of the project, the EPCM mode with an estimated cost of the project which is 250 MUSD and the scope of the services.

2.8. Contribution of Natural Resources to the Economic Growth of the DRC. Professor Daniel MUKOKO SAMBA

The speaker developed the economic approach linking natural resources and economic growth by citing certain authors such as Sachs and Warner (1995, 1997, 2001) who stated the existence of a natural resource curse which would hit countries abundantly endowed. This argument is, however, not unequivocal because 40% of empirical studies have found a negative effect of the abundance of natural resources on long-term growth; 40% found no effects at all; and 20% found a positive effect. The literature has, however, circumscribed the channels through which the abundance of natural resources would take economic growth where the speaker has developed the Dutch disease, rent-seeking behavior and the quality of institutions.

This results from the analysis of dozens of empirical studies which have established that:

- The good quality of institutions reduces the probability of the resource curse;
- Certain resources lead more easily to rentier behavior than others. This is the case for diamonds and other precious metals which can be extracted even by illicit groups and at low technological levels, unlike oil, for example;
- Economic growth is stronger when investments are not too concentrated in the natural resources sector.

The speaker presented two diagrams showing no correlation between long-term economic growth and natural resources. Some rich countries are poor in natural resources and other countries rich in natural resources are poor economically. At this point, he refocused the key question on the quality of institutions by presenting two other graphs which noted a correlation between natural resources and the quality of institutions by pointing out that countries rich in natural resources are institutionally weak and have also high levels of corruption.

As a conclusion to the 2020 interim assessment report for the Natural Resource Governance Index, he cited:

- The DRC has made progress in the governance of the mining and hydrocarbons sector according to the results of this interim assessment of the 2020 Natural Resources Governance Index (RGI), covering the years 2018 and 2019.

- This progress results on the one hand from the revision of the mining code in 2018 which contains several innovations in terms of requirements relating to the transparency of revenues, operations and the management of environmental and social impacts, and on the other hand from the availability of additional data on revenues and public companies at the level of the EITI (Extractive Industries Transparency Initiative) process.

However, the governance of the mining and hydrocarbons sector has not reached the “satisfactory” performance bracket of the RGI. The current context characterized by the economic recession accentuated by the crisis linked to the Coronavirus pandemic, as well as international interest in the subsoil resources of the DRC to facilitate the energy transition, make good governance one of the major priorities of the country to extract

maximum benefits from its resources. The main recommendation of this evaluation concerns the need for the government to continue its reform efforts, in particular through the adoption of remaining implementing measures to achieve the effective implementation of the provisions of the revised mining code and the law establishing the general hydrocarbon regime, and thus hope to achieve the expected results of said reforms. The public enterprises (EP) concerned by the interim evaluation of the RGI 2020, the “Société Générale des Carrières et des Mines” (GECAMINES) and the “Société Nationale des Hydrocarbures” (SONAHYDROC), display a relative performance boosted by the disclosures of the Initiative for Transparency in Extractive Industries (ITIE) and the rules introduced by recent sectoral legal reforms. However, GECAMINES and SONAHYDROC remain in the “insufficient” and “mediocre” performance categories respectively.

- Transparency, notably the disclosure of financial statements, partnership contracts, and monitoring of public procurement rules for the sale of assets are among the critical steps for EPs to effectively contribute to the Congolese state's improvement efforts governance of the extractive sector.

- The transparency of the extractive sector in the DRC remains highly dependent on the EITI process, whose new guidelines nevertheless encourage integrated and systematic declarations by the administration and companies.

What we must therefore do is to internalize this process in such a way that, with or without external pressure, we consider it important to improve governance over natural resources because improving the quality of institutions can counter the virtuous ablation of natural resources and economic growth in the DRC.

2.9. Impact of Zinc Exploitation by KICO on the Congolese Economy. Speaker: Louis WATUM, CEO Kipushi Corporation (KICO SA)

Zinc therefore plays its part in:

Construction of infrastructure: Fight against corrosion and durability: 60% of refined zinc is used to protect steel against corrosion; This steel comes into play in the construction of guardrail buildings and bridges, but also

in the design of wind turbines and solar panel structures.

New technologies: new technologies: Electrical and electronic applications such as switches, electronic parts, printed circuit components and cables; During the

Covid-19 crisis, zinc helped ensure the continuity of businesses and the economy.

All in all, zinc is present everywhere (human health, agriculture, in pharmacy, etc.) and is one of the key resources of the energy transition. It is the most used metal after steel, aluminum and copper.

The speaker states that Kipushi is polymetallic but KICO focuses on zinc and the particularity of Kipushi is the fact of having the largest zinc deposit in the world, with a very high content. He declared: the tragedy of our country in mineral resources is not limited only to gold, cobalt, copper, etc.; it is a great geological tragedy.

However, it is really important that the pie surrounding a mining project benefits equitably between all stakeholders and that each plays its part according to its responsibility.

To all stakeholders in the Government-Mining Companies-Civil Society tripartite:

- Mines are not the locomotive of development but rather an accelerator;
- Essential conditions: good governance, eradication of corruption, strengthening of institutional capacity, better distribution of the national budget to encourage investment spending in rural areas, the inclusion of rural women in the formal economy, the increase in the tax base by formalizing the informal sector of the economy;
- The real mining industry, when well administered with a shared common vision, is capable of propelling our country in a relatively short period into the ranks of emerging economies because it provides infrastructure (roads, rails, hydroelectric plants, ports, etc.).

3. CONCLUSION AND RECOMMENDATIONS

All Congolese, mining companies and politicians must understand the concern of our country which continues to be the shame of the 21st century. We must all awaken our conscience, in order to bring our country out of this paradoxical hat: “country rich in natural resources, with a very poor population”. It is urgent to avoid mining fraud, corruption and the anarchic exploitation of our natural resources. The lack of political will is the blockage for the Congolese population to benefit from its natural resources; the lack of execution capacity by state institutions is hampering the development of the DRC. Politicians must listen to scientists to make effective decisions, because scientists who are researchers in universities are the real leads for solutions.

3.1. Manage partnerships with mining companies

- ✓ It is relevant to take good care of partnerships with mining companies which contribute enormously to the Congolese economy and which work to the great satisfaction of the population; such is the case of Kibali gold mine which awards scholarships to students, promotes research internships and professional internships, finances student activities including those of the geosciences club and is committed to the fight against unemployment in the DRC;
- ✓ Dealing well with IVANHOE mines which demonstrates its ability to propel the economy of the DRC through the discovery of large ore deposits. Then this company actively supports our activities and is also committed to significantly combating unemployment among young Congolese.

3.2. Fight against mining fraud and insecurity in the DRC

- ✓ Regarding the CEEC having given the large amounts of money dissipated through the mining sector due to mining fraud (in artisanal gold mining) and insecurity, we ask the Congolese government to put in place leadership for the responsible and rational management of our mineral resources, the safe deposit box of the Congolese economy;

- ✓ With the enormous loss of revenue due to insecurity and mining fraud respectively the closure of the artisanal Coltan mining mine in the territory of RUBAYA and the exploitation of Gold, given for illustrative purposes, it is impossible for our natural resources to benefit the Congolese population who are languishing in poverty;
- ✓ Still with a view to maximizing revenue, it is urgent to strengthen a team of geologists at the CEEC to first increase the number of field trips, then carry out an in-depth petrographic study in order to recover the bonuses relating to the metals associated with the host ore. having been ignored in the past-by-past governments. The relative illustration was demonstrated for the case of GECAMINES which, at the time only copper was considered a tradable metal so these associated metals produced more than 3,000,000USD (Cfr. CEEC Presentation) by the expertise of the CEEC;
- ✓ Equip the CEEC with modern petrographic microscopes for reliable analysis of mineral substances;
- ✓ Build without much delay a gold refinery industry in the EAST of the country to promote added value to the Congolese economy.

3.3. Rationally manage natural resources

- ✓ Based on the EITI recommendations, natural resources are exhaustible and non-renewable; hence the need to exploit them prudently and rationally in transparency, for sustainable development of the DRC for the benefit of present and future generations;
- ✓ Establish a water policy in order to have access to clean water, for the sustainable development of the DRC.

3.4. Ensuring geological knowledge of the DRC

Regarding the revelations and regrets presented by the CAMI, with regard to geological infrastructures, we noted the neglect of the essential. How can we talk about a geological scandal whose subsoil is very poorly known?

Only 17% of the country's surface area is mapped; worse still, only one synthetic geological map at 1/2,500,000 has been updated with an inventory of mineral substances. The coverage rate in regular geological maps is still very low; it does not exceed 3% for maps at a scale of 1/200,000. In view of the above, the geosciences club recommends to the Ministry of Mines to appoint the facilitators of FOMIN, to propel the national geological service which, as far as possible could be a solution to the in-depth geological knowledge of the DRC. According to the general director of this service, everything is available, only the government is able to provide the means for coherent geological exploration because, until now, this service has not even started recruiting agents due to lack of resources.

3.5. Have animators with the capacity for effective execution

According to Professor Daniel Mukoko Samba, the time is no longer for lamentations about mining governance, we must take action. As for this, it is deplorable to note that the DRC has a GDP higher than Madagascar, CAR, MALAWI and BURUNDI, but with great mineral potential. Why is the situation under control for the neighbors, but for us the rags are burning? it is the quality of institutions: countries abundantly endowed with NR would be more inclined to have weak institutions because of corruption.

In addition to the recommendations made to the Congolese government, we call on all stakeholders to become aware. This pushes us to rely on the recommendations of Mr Louis WATUM, CEO of KIPUSHI CORPORATION, who deplores the poor living conditions of the Congolese people, the deplorable unemployment of young Congolese, the DRC having an exceptional mineral endowment. We give these recommendations below:

KEY ROLE OF THE TRIPARTITE STAKEHOLDERS

Responsibilities of Mining Companies:

- Bringing capital and technology;
- Operate honestly and transparently with host country governments;
- Create jobs;
- Transfer skills;
- Promote local suppliers;
- Have a positive impact on the living conditions of communities.

Responsibilities of Governments:

- Providing an incentive regulatory framework for investments;

- Ensuring the peace and security of the country;
- Providing or incentivizing infrastructure development;
- Ensure the stability and transparency of the tax system as well as good governance;
- Guarantee the free transfer of currencies.

Responsibilities of communities:

- Comply with the regulatory framework;
- Take ownership of the project and support initiatives that benefit communities;
- Being accountable for the management of funds made available for community development;
- Dialogue within a permanent consultation framework.

Acknowledgments

We would like to thank all the speakers of this sixth edition of the Geosciences Forum, among others organizations such as KIBALI GOLD MINE; IVANHOE MINES; CAMI, CEEC; EITI DRC; UNESO; LITRASE for their contribution to the realization of this event. We also thank Professors Adalbert-Jules MAKUTU MA NGWAYAYA and Daniel MUKOKO SAMBA for responding to our invitations. Finally, we thank all the teams and members of the Geosciences Club as well as the Geosciences department of the Faculty of Sciences and Technologies of the University of Kinshasa.

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