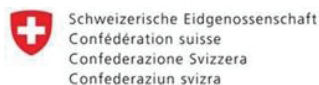




Norwegian People's Aid

BASELINE STUDY ON TRANSPARENCY AND COMPLIANCE IN EXTRACTIVE INDUSTRY IN RWANDA

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Swiss Agency for Development
and Cooperation SDC



Norad

**BASELINE STUDY ON TRANSPARENCY
AND COMPLIANCE IN EXTRACTIVE
INDUSTRY IN RWANDA**

EXECUTIVE SUMMARY

Integrity and Transparency initiatives set a standard for open and accountable management of mineral resources and making the mining operations transparent. Thus, in the framework of Transparency International Rwanda (TI-RW) strategic plan 2020 -2024, under the strategic axis “Fostering Citizens centered governance”, environmental governance was identified as one key cluster for TI-RW intervention to increase Transparency, compliance with the existing laws and citizens’ centered environmental management”. Within this regard, Transparency International Rwanda has received support from Norwegian People’s Aid in the framework of PPIMA project to conduct a baseline study on Transparency, Compliance and impacts of the extractive industries on the direct beneficiaries (workers, landowners and extractive sites neighbors) as well as analyzing any side effects on environment.

❖ Objective of the study

The objective of this research is to empower citizens by raising awareness of the social and environmental issues associated with mining activities, as well as expanding the roles that civil society organizations and the private sector can play in promoting integrity, transparency, and accountability in the mining sector.

More specifically, the baseline study intends to;

- ✓ Determine the level of transparency in the enforcement of the law on Mining Quarry operations
- ✓ Analyze the extent to which compliance standards are observed in the extractive industry
- ✓ Examine how gender is mainstreamed in mining sector
- ✓ Explore the risk copying mechanisms in place to deal with socio-economic and environmental issues related to mining activities
- ✓ Analyze the socio-economic impact of mining on local communities and mineworkers

❖ Demography

As statistics show, females account for fewer than 10% of mine workers, whereas managers of mining sites account for less than 16% of respondents. Statistics also show that the respondents who participated in this study were between the ages of 22 and 25. statistics also indicate the majority of respondents (more than 35%) are high school graduates. As revealed in the finding, TVET graduates account for less than 1% of the total, while higher education graduates account for 3.17%. According to statistics, more than 5% of people claim to have never attended formal education. However, a large percentage of those respondents say they have been studying at various levels of education but have not completed.

❖ The level of transparency in the enforcement of the law on Mining Quarry operations

Statistics in this study show that there is a considerable gap, particularly in terms of compliance, with a large proportion of respondents (79.1%) confirming that mine workers are employed without contracts. In the same vein, a significant proportion of respondents believe that terminating an employment contract is not based on legal procedures, with a significant

number of respondents (80.6%) argue that when an employee suffers from occupational diseases, he or she is immediately fired. While many respondents (74.98%) also expressed concern about contracts being cancelled without notice.

Another key issue in mining company governance, according to majority of respondents (more than 80%), is that employee selection is based on family ties and friendships. Other governance loopholes reported by a large majority of respondents (more than 90%) include a lack of salary/wage bargaining rights, salary/wage payment by hand rather than through bank account, and the most difficult issue, being paid on a piecework basis. In the same vein, more than 70% of respondents feel that legal procedures determine whether a mining activity license is granted or denied. On the other hand, over 70% of respondents felt that the approval of license applications is transparent and based on legal procedures. While more than 70% of all respondents claim that inspections are conducted in compliance with legal procedures.

❖ **Compliance in the extractive industry**

As per the statistics, there are a variety of diseases that often affect miners, such as skin diseases, chronic obstructive lung disease and hearing loss as reported by more than 50% of respondents. Respondents, on the other hand, confirmed that diseases such silicosis, Emphysema, cancers and asbestosis emphysema, as well as mesothelioma, affect miners but not severely, as confirmed by more than 35% of the total respondents. As revealed in the findings, respondents who believe that miners are always or regularly provided with equipment during mine operations are less than 70% of both mineworkers and site managers. Even some say no equipment at all.

With regard to mineworker access to medical treatment, 64.2% of respondents (mineworkers) and 53.1% (mining site managers) of respondents believe that mineworkers are not given medical services when they are sick. On the other hand, 49.9% of respondents (mining site managers) and 61.2% (mineworkers) of respondents reported that mineworkers pay themselves for medical services when they are sick. In the same view, only 39.19% of respondents (mineworkers) and 38.1% (mining site managers) agree that their companies pay for health insurance as appropriate. With regard to compliance with environment protection, a small percentage of respondents (less than 63%) believe that appropriate environmental protection measures are taken in their organizations, and that their leaders place a high value on the environment. Despite the low response rate (less than 60% of total respondents), statistics show that reforestation and resettlement of damaged communities are the most common measures used by mining companies to reduce their negative environmental impact. On the other hand, as revealed in the findings, providing alternative sources of drinking water, reviewing or varying methods of operation, and compensating affected communities are some of the measures not often used by mining companies to mitigate the negative impact of their operations on the environment.

❖ **Examine how gender is mainstreamed in mining sector**

According to the data, the mining industry has a considerable gender gap due to shortcomings in corporate gender equality policies, with just 50 to 61% of respondents claiming that appropriate gender equality policies are taken into account in their workplaces. The gender disparity in mining sector is also evidenced by the fact that over 90% of respondents (mineworkers) and over 80% of respondents (mining site managers) are male. The fact that females made up less than 11% of the respondents in this study reveals a significant gender imbalance in the mining industry.

❖ **The risk copying mechanisms in place to deal with socio-economic and environmental issues related to mining activities**

As revealed in the findings, less than 60% of respondents acknowledge that their institutions are making significant efforts to mitigate the environmental effects of mining operations. Similarly, just 52% of respondents believe their organization has management practices in place to cope with the socio-economic and environmental difficulties associated with mining operations. They claimed that firms participate in local conservation programs outside of their operations and that companies set specific habitat management objectives and targets during the building of mining sites. They also stated that throughout the building of mining sites, corporations set particular habitat management objectives and targets, and that all operations are subjected to environmental impact assessments.

❖ **Analyze the socio-economic impact of mining on local communities and mineworkers**

In terms of the socioeconomic impact of mining on mineworkers and communities, the data imply that there are insufficient benefits for miners' development. This is backed up by the fact that a little percentage of respondents (less than 21%) listed commercial and residential properties, small business capital, farmland, agricultural land, and livestock as assets obtained from mining activities. In the same vein, study's findings revealed that, more than 80% of respondents said that having access to informal jobs benefits persons who live near mines. Another benefit noted by respondents is purchasing goods and services in local marketplaces, which helps local people gain access to money (67.19%). On the other side, many respondents (more than 70%) claimed that donations (philanthropy) are at the forefront of mining companies' community development activities. Another institution's primary goal for community development is volunteerism, which was endorsed by more than 60% of the total respondents. Despite the low percentage of responses, other development initiatives cited include road construction and repair (less than 40%).

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ACRONYMS

IGF: Intergovernmental Forum

MINIRENA: Ministry of Natural Resources

RNRA: Rwanda Natural Resources Authority

UN: United nations

SDG: Sustainable Development Goals

UNDP: United Nations Development Programme

TARSC: Training and Research Support Center

GDP: Gross Domestic Product

IFC: International Finance Corporation

UNESCO: United Nations, Educational, Scientific and Cultural organization

SIDA: Swedish International Development Cooperation Agency

IGC: International Growth Centre

MPF: Mining Policy Framework

REMA: Rwanda Environment Management Authority

FGD: Focus Group Discussion

TI: Transparency International

USAID: The United States Agency for International Development

TVET: Technical and Vocational Education and Training

ILO: International Labour Organization

IIED: International Institute for Environment and Development

OECD: Organization for Economic Co-operation and Development

CSR: Corporate Social Responsibility

NCHR: National Commission for Human Rights

1. INTRODUCTION

This report describes the initial start-up activities including but not limited to the objectives, scope of the assignment for baseline study on transparency and compliance in extractive industry in Rwanda. It also elaborates the methodology, processes, procedures and methods used in the collection of the data; and describe the key questions asked to participants as well as evaluation strategies of the information gathered.

1.1. Background of the study

Mining is the second-highest foreign exchange earner in Rwanda (after tourism), and is a key strategic sector expected to support the country's Economic Development and Poverty Reduction Strategy (IGF, 2017). Rwanda's mining sector has a long-standing history dating back to German explorations during the First World War (RMA, 2018). The main minerals produced in Rwanda are tin, tungsten, and tantalum (3Ts). Gold, colored gemstones, diamonds and rare earth elements, as well as a wide range of development minerals, such as industrial, precious, and semi-precious stones and construction materials, are also found in significant quantities in Rwanda and are ripe for investment. The new law governing mining and quarry operations, which was gazetted in August 2018, seeks to promote professionalism and growth of the mining sector, to address the health and safety of workers, environment compliance, raised productivity, as well as gender equality in mining. The law also tackles a wide-range of other issues in the sector, including licensing, illegal mining and the safety of the communities that surround mines.

In many countries, money from mining sector is associated with conflicts and corruption. Although, while the Government of Rwanda is actively promoting sustainable development through its minerals sector, it is important to examine whether tendering or licensing goes through transparency and integrity. Integrity and Transparency initiatives set a standard for open and accountable management of mineral resources and making the mining operations transparent. However, in the framework of Transparency International Rwanda (TI-RW) strategic plan 2020 -2024, under the strategic axis "Fostering Citizens centered governance", environmental governance was identified as one key cluster for TI-RW intervention to increase Transparency, compliance with the existing laws and citizens' centered environmental management". Within this regard, Transparency International Rwanda has received support from Norwegian People's Aid in the framework of PPIMA project to conduct a baseline study on Transparency, Compliance and impacts of the extractive industries on the direct beneficiaries (workers, landowners and extractive sites neighbors) as well as analyzing any side effects on environment.

1.2. Objectives of the Study

The aim of this study is to empower citizens through raising awareness on the social and environmental problems related to mining activities, as well as increasing the roles that CSOs and Private Sector can play in promoting integrity, transparency and accountability in mining sector.

1.2.1. Specific objectives

More specifically, the baseline study intends to;

- ❖ Determine the level of transparency in the enforcement of the law on Mining Quarry operations
- ❖ Analyze the extent to which compliance standards are observed in the extractive industry
- ❖ Examine how gender is mainstreamed in mining sector
- ❖ Explore the risk copying mechanisms in place to deal with socio-economic and environmental issues related to mining activities
- ❖ Analyze the socio-economic impact of mining on local communities and mineworkers

1.3. Scope of the Study

To achieve the objectives designed in the study; this baseline study focused on extractive industry in Rwanda. This study's target group is comprised of mining workers; mining sites managers or formers land owners; local leaders and mining companies' owners.

1.4. Stakeholders and Engagement

The Consultant engaged all key stakeholders, with a view of establishing the legal framework and practice governing beneficial ownership disclosure and the beneficial ownership of all entities involved in extractive industry in Rwanda. The stakeholders engaged in the survey includes but not limited to: The Ministry of Natural Resources (MINIRENA), Rwanda Mines, Petroleum and Gas Board (RMB), mining workers, mining sites managers, local leaders and mining companies' owners. The Consultant interviewed some Stakeholders and detailed questionnaires requesting information in line with survey objectives was sent to all respondents. Prior to sending the questionnaires, follow-up was undertaken in cases where information was not provided, incomplete data, or the information that was incomprehensible.

2. LITERATURE REVIEW

Minerals are at the core of human and economic development. Minerals are also essential for the clean energy transition to meet the urgent climate change challenge, such as for the production of batteries for cars, solar panels and wind turbines. While the operations of the large-scale mining sector are essential to maintain and increase economic development around the world the sector also faces serious challenges related to its significant environmental and social impact. Environmental and social impacts of the sector include greenhouse gas emissions, toxic waste that can negatively impact soil and water quality, unsafe working conditions and negative impacts on vulnerable groups such as women and indigenous people. Frequent accidents of the sector have increased the pressure on large mining groups to improve the management and transparency of their environmental and social impacts. (UN environment, 2020)

2.1. Managing mining for sustainable development

The extraction of minerals from the earth presents opportunities, challenges and risks to sustainable development. Minerals are essential for human wellbeing and are fundamental for virtually all sectors of the economy. However, mining also presents critical challenges and risks for sustainability. Mineral resources are finite and non-renewable, at least in human or biological timescales. Environmental and social problems and risks posed by mining are increasingly generating conflicts between mining companies and local communities. With declining ore grades for most minerals, the resource intensity and the amount of waste generated per unit of resource produced is likely to increase, and the associated environmental costs will prove a constant and growing challenge. Mining activities can also contribute to sustainable development, particularly to its economic dimension. It can bring fiscal revenues to a country, drive economic growth, create jobs and contribute to building infrastructure. Thus, mining has both positive and negative implications for the Sustainable Development Goals (SDGs)(UNDP, 2018a). Mining activities can require extensive land and water resources, displacing local people. This affects their living conditions and economic activities. Pipelines can cross land, affecting local economic activities and access to water, flora, arable land and pastures for livestock. These effects can be worse if those affected are not consulted. Resettlement plans are generally discussed with government, but not always with local communities. Frustrations over this situation has led to conflict and protest, especially when methods for dealing with grievances are weak or unresponsive.

Hazardous working conditions and air and water pollution from mining affect not only the health of workers, but also the health of the surrounding community. If not controlled, the dusts, gases and chemicals from mining may not only pollute the air, ground and surface water and soil for those currently living around mines. They may also harm children and future generations. Even after mines close, ex-mineworkers may suffer lung and other diseases that take time to be detected. Mine dumps can continue to pollute land and water years after mines close if they are not properly set up. However, these risks can be controlled if they are assessed, if plans are made to control them, and if resources are applied to these plans. Mining is a very capital intensive activity and countries may seek to attract foreign investment in mining by giving generous tax exemptions (TARSC, 2018).

Mining provides vital commodities for a wide range of products and services and has done so through the centuries. The sector occupies the position at the start of the resource supply chain for many other industries. Managed well, mining creates jobs for lower and higher skilled workers and can “spur innovation and bring investment and infrastructure at a game-changing scale over long time horizons.”⁹ Mining has historically often been viewed solely through the lens of the sector’s contribution to economic growth, without considering the broader environmental and social impacts and their associated costs, but that is changing (UNDP, 2018b). According to UN Environment report, the management of environmental and social aspects, and sustainability reporting of mining companies is currently not meeting the expectations of interested stakeholders, notably communities affected by mining operations and investors (UN environment, 2018). With regard to the potential challenges highlighted in the literature, UN Environment recommended the following practices to promote good governance in mining sector for sustainable development.

Table 1: UN Environment recommendations

S/N	Recommendations
1	Governments have an important role to play in enhancing the sustainability reporting of mining companies operating in their jurisdictions, such as through policies or guidance on what environmental and social aspects are most important in the local and national context and support the attainment of the Sustainable Development Goals (SDGs).
2	The COVID-19 pandemic is disproportionately affecting vulnerable communities, including around mining operations and disrupting supply chains. Mining companies can support the economies of affected communities such as through local procurement, which can also be beneficial in a situation such as COVID-19 that puts limits on the effectiveness of international supply chains. Mining companies and governments can consider modern technologies available for real time monitoring of social and environmental impact of mining operations. This can help in transferring information from mining companies to the government, such as for SDG reporting, but also to other stakeholders such as local communities.
3	Sustainability reporting of mining companies needs to further integrate the SDGs. Governments have an important role to play to provide mining companies with the relevant information and data relating to national SDG priorities and actions plans, to inform and focus the mining companies' sustainability reporting
4	When evaluating the feasibility of mining projects, governments should consider, in an integrated way, the economic, environmental and social impacts of mining projects. At present, economic factors are often considered separately and final decisions fail to adequately weigh in environmental and social aspects of a proposed mine

Source: (UN environment, 2018).

2.2. Mining in Africa

The mining industry has emerged as a powerful engine of economic growth in Africa. The boom in investment and resource prices has contributed to the continent's Gross Domestic Product (GDP) growth by 64 percent between 2000 and 2011. The continent's growth rate has remained robust; averaging more than 5% over the past 10 years with further acceleration anticipated. Mining projects have contributed to development in the continent through taxes and royalties, creating jobs and local procurement, and companies have also supported communities through community investment projects. Recently, there is a growing attention on benefit sharing mechanisms through which mining companies can better contribute to development efforts. Particularly for fragile and post-conflict states, analysts have pointed to the fact that "the mining sector has been essential in kick-starting economic and social progress through its willingness to invest where other investors are more wary"(IFC, 2012).

The mining industry in Sub-Saharan Africa is generally associated with weak direct employment generation compared with its contributions to GDP and export revenue at a national level. Yet mining has the potential for large local impacts that can begin to bring about structural transformation in local economies. Economic activity in Africa saw a remarkable upswing beginning in the mid-1990s. Growth of gross domestic product (GDP) across the region averaged 4.5% a year in 1995–2014, nearly double the pace in the previous two decades. Progress has been broad-based, with both resource-rich and non-resource-rich countries seeing brisk expansion, a turnaround that fueled the narrative of a "rising Africa." Indeed, the region's growth performance since the early 2000s has matched that of the rest of the developing world. The spurt in economic activity also reversed the region's declining

trend in average income per capita, although population growth kept gains for this measure at modest levels, averaging below 2% (WORLD BANK GROUP, 2017).

However, mining industry faces considerable challenges that make running a mining company more difficult than ever. High quality, geologically easy-to-mine resources in easily accessible locations have been long identified and exploited; this requires miners to venture into new, increasingly remote, climatically difficult locations to find still rich mineral deposits (IFC, 2012). The mining industry faces considerable challenges, including a combination of burgeoning commodity demand, finite existing supply, and rapidly rising commodity prices. Africa offers an area full of potential, but also poses substantial risk to mining companies, both below and above the ground. The above -the ground risks which include high levels of political instability and corruption, opaque regulations, and poor enforcement capacity are especially vexing and can be quite costly. To mitigate above-the-ground risks and effectively compete with sovereign-backed firms, mining companies looking to do business in Africa should take an inclusive approach to development that addresses the needs of not only the companies themselves, but also the relevant governments and communities in which they operate (DELOITTE, 2013).

2.3. Mining in Rwanda

Rwanda is rich in a variety of minerals (United States Geological Survey, 2014). The most prominent are the rare metals of tin ore (cassiterite), tungsten ore (wolframite) and tantalite (coltan); tin, tungsten, tantalum are commonly known as the 3Ts. Gold is also mined. In 2016, Rwanda was the eighth-largest producer of tungsten in the world (Index Mundi, 2013). Revenues derived from exports of the 3Ts and gold are currently second highest among all sectors nationally (USD 149 million in 2015), after tea and coffee (Rwanda Development Board, January 31, 2017 discussion) (Sida & UNESCO, 2017; IGF, 2017).

More emphasis was put on development of the sector, and privatization was a major step to recovery: mining was largely privatized, and regulation and supervision were managed closely by the central government. This quickly introduced many private operators into mining and trading in Rwanda, most of whom are relatively small operators. The government formulated and began to implement a mining policy that addressed gaps in the legal framework, skills and capacity, which were sometimes filled by consultants in both the public and private sectors. They also began to consolidate artisanal miners into associations, implement international norms (especially traceability), and are now building technical capacities within universities and technical colleges. Privatization also led to an influx of international companies investing in mining projects and forming joint ventures with local investors (IGF, 2017).

Mineral commodities are among Rwanda's leading sources of forex revenue, yet the mining sector contributes a disproportionately low share to GDP (less than 10%). Rwanda is among the leading producers of Tin and Tantalum, but most processing occurs abroad, limiting further economic gains from accruing locally. Domestic processing of Rwanda's traditional commodities has been a long-standing national objective which has so far proved challenging to achieve. Further, upstream, Rwanda's mining sector is predominantly composed of Artisanal and Small Mining operations known to produce below their achievable potential. The Rwandan Government in 2017 intervened by restructuring the minerals sector and establishing a new public entity to handle all mining petroleum and gas matters. A new Mining Policy and Law accompanied this in the following year. Following a request from the government, the IGC provided peer review of the draft policy and law. This policy brief follows

from a second follow-up mission supported by the International Growth Centre (IGC) to provide peer-review of the 2017 - 2024 mining policy (IGC, 2019).

The Government of Rwanda has identified mineral industry comprising of mining and quarries as a priority sector for development. This is because the country holds deposits of gold, precious stones and small quantities of natural gas, kaolin and peat (RDB, 2012). The Government of Rwanda (GoR) has identified Mining sector as one of the priority sectors to drive economic growth, job creation, poverty reduction and social wellbeing of Rwandans. (Sida & UNESCO, 2017). Rwanda's mining sector is predominantly composed of Artisanal and Small Mining operations known to produce below their achievable potential (IGC, 2019). Rwanda is among the leading producers of Tin and Tantalum. Rwanda hosts a large number of historical mineral occurrences and a few operating mines. As revealed in various reports, Rwanda is not as rich in natural resources as some of its neighbours, but has the advantage of relative stability and capacity to implement long-term, developmental policies. According to Fitsum Weldegiorgis, (2016), this is conducive to a more organised small-scale mining sector and greater domestic investment in industrialized mining, provided political and business incentives are aligned with official policy objectives.

2.3.1. Mining laws and policies in Rwanda

Rwanda is known to have and to continuously strive to put in place good governance and strong legal and policy frameworks in all economic sectors. Five government institutions are paramount to the mining sector operations, namely: The Ministry of Infrastructure (MINIFRA), the Ministry of Environment (MoE), Rwanda Environment Management Authority (REMA), RMB, and RDB. Rwanda has made significant strides to improve its regulatory policies and practices so that they approach international best practices. The new law governing Mining and Quarry Operations (Law No 58/2018 of 13/08/2018; Rwanda 2018) seeks to promote professionalism and growth of the mining sector while giving a new lease of life to the mineworkers whose safety at work has been the cause for concern (NISR, 2019).

Summary of mining legislation and policy in Rwanda

The government of Rwanda, through the RMB, has recognized the detrimental impact of mining on the environmental and on the quality of life of the people of Rwanda. In 2018 both the mining law (the Law on Mining and Quarry Operations, Law No 58/2018 of 13/08/2018; Rwanda 2018) and the draft mining policy (RMB 2018) was introduced. Herewith a brief summary therefore with respect to environmental considerations. Law on Mining and Quarry Operations, Law No 58/2018 of 13/08/2018 Prior to the commencement of any operations, mining licence holders must submit to the competent authority a report on the study on environmental impact assessment (EIA) and social welfare approved by relevant public organ. During the various phases of mining, there are different requirements, such as:

❖ Exploration

According to the Law the maximum area of exploration should not exceed the recommended size, and the maximum duration of exploration should not exceed the period specified in agreement with the regulator institution. In case of trenching and pitting, auguring and other

forms of drilling, rehabilitation should be done as recommended in EIA. Time must be indicated as to when rehabilitation starts after exploration ends.

❖ **Operation**

During the mining phase, minerals exploitation should be guided by an EIA with clear Social Impact Assessment (SIA), and adequate compensation for local communities. Minerals extraction should be done in designated areas and mining based on the type of minerals, land uses, and ecological sensitivity of mining areas. Wastes should be disposed in designated disposal sites. Appropriate technology must be used to increase efficiency, dust, and noise and vibration control to acceptable levels. Toxic by-products should be properly managed

❖ **Post-mining**

Disused mines should be rehabilitated according to EIA and EMP. Government should facilitate EIA and provide disaster vulnerability profiles for mine sites. Mine operators should be encouraged to operate as organized groups and assessed to ascertain capacity to mine i.e. skills, equipment and finances.

In addition to the above, License holders are required to:

- ✓ Rehabilitate damaged areas, reinstatement of boreholes and excavations, afforestation, removing buildings and levelling, of any part affected by exploration, mining or quarry operations basing on the environmental impact assessment and in compliance with the law on environment (Article 40).
- ✓ Have a rehabilitation plan which shows the planned activities and related budget. License holders remain liable for environmental protection until a final rehabilitation certificate is issued by the authority in charge of environmental protection (Article 41).
- ✓ Provide an environmental rehabilitation guarantee. The nature and amount of environment rehabilitation guarantee and as well as modalities for depositing it are determined by regulations of the competent authority (Article 42).
- ✓ Make sure that the mine is commissioned, maintained and decommissioned in a manner that does not compromise the health and safety of workers and other people, ensure that all persons working at the mine have the necessary skills, competence and resources to carry out their work safely and also ensure the safety of others. Where the authorized officer considers that the operations may compromise or endanger the health and safety of a person, that officer may make an urgent decision. Such a decision may require the identified danger to be rectified immediately or within a reasonable time or that the mining or quarry operations be suspended until the danger is rectified (Article 43).
- ✓ To have authorization of the Minister in charge of internal security before importation, manufacturing, transportation, trading, use of dynamites in mining and quarry operations, and will require a recommendation of the competent authority (Article 44)

The draft mining policy (RMB 2018)

The mining policy proposes two main objectives with respect to environmental sustainability and social support, namely:

- ✓ The reduction of the negative environmental impact of mining and related activities and the transparent and equitable exploitation of mineral resources to underpin inclusive sustainable growth and socio-economic development; and
- ✓ To promote green mining practices by considering the economy, the community, the environment, efficiency and safety. These objectives, according to the policy, are to address some of the main consequences of mining, namely:
 - ☒ Changes to surface and ground water flows and levels;
 - ☒ Damage to soils including salination, acidification, pollution and compaction or loss of soil structure;
 - ☒ Dust or noise nuisance, vibration and a reduction of visual landscape values; Gaseous emissions from mineral processing, methane emissions from mine openings, fumes from coal seam fires where it is used to provide energy;
 - ☒ Danger of sudden failure of engineered containment structures such as tailings dam embankments, settling and holding ponds, resulting in release of high concentration/ high volume contaminants;
 - ☒ Acid mine drainage (tailings, ore and waste dumps, and old mining areas which contain sulphur or sulphides such as iron sulphide, can generate acid through bacterial oxidation when exposed to moisture and oxygen - this acid leaching may then mobilize heavy metals that can be released into the environment;
 - ☒ Loss of flora and fauna including direct losses through clearing and indirect effects due to the destruction of plant and animal habitats;
 - ☒ Damage to heritage sites that attract tourists; and
 - ☒ Destruction of adjacent habitats arising from the development of camps, towns and services stimulated by the mining project. The following Policy Statements towards environmental sustainability and social support are proposed:
 - ☒ Encourage alternative approaches which endeavor to address both mining and environment aims;
 - ☒ Set and enforce mechanisms and guidelines for environment protection, mine closure, rehabilitation and resilience in mining;
 - ☒ Enforce the health and safety standards;
 - ☒ Control air and water pollution and contamination of surface or ground water by sediment, mobilization of salt, release of toxic elements from overburden, tailings or wastes, or spills of oil, chemicals or fuel as surface runoff or as underground seepage;
 - ☒ Collaborate with stakeholders to integrate land-use planning with other economic activities including mining;

- ☒ Carry out the inventory of abandoned mines and the mines with historical mining legacies and design plan for rehabilitating abandoned mines and address the issues mining legacies

List of laws, Ministerial orders and policies related to mining in Rwanda

- i. Law N° 58/2018 Of 13/08/2018 on Mining and Quarry Operations
- ii. Law N° 13/2014 of 20/05/2014 on Mining and Quarry Exploitation
- iii. Ministerial Order N°003/MINIFORM/2010 of 14/09/2010 on Requirements for Granting the License for Purchasing and Selling Mineral Substances in Rwanda
- iv. Ministerial order n°001/MINIRENA/2015 of 24/04/2015 determining modalities and requirements for the financial guarantee of environmental protection and its use in mining operations
- v. Law N° 04/2005 of 08/04/2005 Organic Law Determining the Modalities of Protection, Conservation and Promotion of Environment in Rwanda
- vi. Law N°. 13/2009 of 27/05/2009 speak to Rwanda's National Child Labour Policy
- vii. Law N° 06/2015 of 28/03/2015 Relating to Investment Promotion and Facilitation
- viii. Law N° 43/2013 of 16/06/2013 Determining the Use and Management of Land in Rwanda
- ix. Law N°47bis/2013 OF 28/06/2013 Determining the Management and Utilization of Forests in Rwanda
- x. Law N° 55/2013 of 02/08/2013 on Mineral Tax
- xi. Law N°62/2008 of 10/09/2008 Putting in Place the Use, Conservation, Protection and Management of Water Resources Regulations
- xii. Law N° 63/2013 of 27/08/2013 Determining the Mission, Organization and Functioning of Rwanda Environment Management Authority (REMA)
- xiii. Law N° 70/2013 of 02/09/2013 Governing Biodiversity in Rwanda
- xiv. Ministerial Order N°001/MINIFORM/2010 of 10/03/2010 Fighting Smuggling in Mineral Trading
- xv. Ministerial Order N°001/MINIRENA/2015 Regarding the Environmental Guarantee Fund
- xvi. Ministerial Order N°002/MINIRENA/2015 of 24/04/2015 on Criteria Used in Categorisation of Mines and Determining Types of Mines
- xvii. Ministerial Order N°003/MINIRENA/2015 of 24/04/2015 Determining Modalities for Application, Issuance, and Use of Mineral and Quarry Licenses
- xviii. Ministerial Instruction N°010/MINIRENA/2016 of 11/01/2016 Determining Types, Size Limits, and Modalities for Exporting Mineral Ore Samples
- xix. Republic of Rwanda (2018). Law on mining and quarry operations, Official Gazette n°33 of 13/08/2018
- xx. Law n°07/2017 of 03/02/2017 establishing Rwanda mines, petroleum and gas board and determining its mission, organisation and functioning
- xxi. Ministerial instructions no 010/minirena/2016 of 11/01/2016 determining types, size limits and modalities for exporting mineral ore samples
- xxii. Ministerial order n°001/minirena/2015 of 24/04/2015 determining modalities and requirements for the financial guarantee of environmental protection and its use in mining operations

key Institutions

Four key institutions comprise the framework for mining in Rwanda.

❖ **RWANDA MINES, PETROLEUM, GAS, BOARD (RMB)**

Established in February 2017, RMB is the Government of Rwanda body responsible for implementing and advising the government on issues related national policies, laws and strategies related to mines, petroleum and gas. It is also mandated to monitor and coordinate the implementation of strategies related to mines, petroleum and gas. In addition to monitoring, it is supposed to carryout research & exploration in geology, mining and petroleum and do disseminate the findings. Further, the RMB is supposed to supervise and monitor private or public entities conducting mining, trade and value addition of mineral operations. It is to assist the government in valuing mining and quarry concessions. Lastly, RMB is to cooperate and collaborate with other regional and international institutions carrying out similar mission.

❖ **MINISTRY OF ENVIRONMENT (MoE)**

The Ministry of Environment is the coordinating institution of Environment and Natural Resources Sector in Rwanda. The Ministry of Environment was established to ensure the protection and conservation of the environment and ensure optimal and rational utilization of Water Resources, Lands and Forests for sustainable national development.

❖ **RWANDA DEVELOPMENT BOARD (RDB)**

The Rwanda Development Board (RDB) was created by Organic Law N° 53/2008 of 02/09/2008. Its mission is the improvement of the economic well-being of all Rwandans by providing a “one-stop- shop” to fast-track development, support sustainable economic growth, and create prosperity for all. The Mining Sector Strategy was developed by the Ministry of Natural Resources, in collaboration with the department responsible for mining. There is also a department within RDB that is in charge of reviewing and approving EIAs, which includes REMA staff positioned within RDB.

❖ **RWANDA ENVIRONMENT MANAGEMENT AUTHORITY (REMA)**

The Rwanda Environment Management Authority (REMA) was established to act as the implementation institution for environmental policies and laws. REMA is additionally tasked with:

- Coordinating various environmental protection activities undertaken by environmental promotion agencies.
- Promoting the integration of environmental issues in development policies, projects, plans, and programs.

- Coordinating the implementation of government policies and decisions taken by the Board of Directors.
- Ensuring the integration of environmental issues in national planning among relevant departments within the government.
- Advising the government on issues, legislation, and law relating to environmental management or implementation of regional or international conventions, treaties, and international agreements relevant to the environment.
- To make proposals to the government in the field of environmental policies and strategies.

❖ **RWANDA MINING ASSOCIATION (RMA)**

The Rwanda Mining Association (RMA) as an employer's Professional Organization from the mining industry was created on 29/03/2012 and got its legal entity on the 27th August 2012. The Association is currently operating under the umbrella of the Private Sector Federation (PSF) and is composed of large exporting companies, artisanal and small scale mining companies and cooperatives, currently has 270 member companies all involved in 3TG. It is managed by an executive committee at the national level, and subsequent committees at the provincial level and district level respectively that have a limited term of office of three years. It has an operational permanent secretariat with a few staff that runs its daily management. RMA's mission is to maximize the economic potential of Rwanda's mining sector and make it the national top export earner.

❖ **RWANDAN EXTRACTIVE INDUSTRY WORKERS UNION (REWU)**

REWU is a Rwandan Extractive Industry Workers Union, which is organizing all workers in Mining, Quarry Companies and cooperatives in Rwanda since 2014. REWU is a key partner of Ministry of public services and labor (MIFOTRA), Rwanda mines, petroleum and gas board (RMB), Provinces and Districts in local government; Rwanda Mining Association (RMA) and Rwanda Quarry Association (RQA) as employer's professional organizations in mining sector. REWU was published in Rwanda Official Gazette No. 49 Bis of 08/12/2014. REWU's mission is to privilege ways to bring together workers of extractive industry, to defend their interests and living in good conditions.

Transparency and Compliance Challenges in Rwanda's Extractive Industry

The Government of Rwanda (GoR) has identified Mining sector as one of the priority sectors to drive economic growth, job creation, poverty reduction and social wellbeing of Rwandans (Sida & UNESCO, 2017). However, mining also presents critical challenges that hinder its performance, particularly in terms of transparency and compliance. According to the Rwanda Extractive Industry Workers Union, increasing the knowledge of miners and the use of modern equipment is the key to increasing mining output, where both the employer and the employee. get the benefits. However, the miners' union claims that there is still a gap in the mining sector, particularly in terms of compliance <https://rewu.org.rw>. Some of the challenges identified include the following;

Table 2: Compliance gaps revealed by the miners' union in Rwanda

There are many miners who do not have a contract of employment, which has consequences for them, such as losing confidence in continuing their work, as it is known that an employee who does not have a contract can be fired at any time. In this case, there are employers who provide temporary contracts, but find that the employee has been in the company for 3 years or more. Such contracts are not advantageous to employees because even a bank would be hesitant to lend to a credit-seeking employee.
While both the public and private sectors continue to make efforts to improve employment, job creation and provide employees with good working conditions, there are still employers who hire employees regardless of employment contracts and Social security contribution to RSSB
Many employees are paid by hand rather than through banking institutions.
There are workers in the mining industry who work but are not compensated for their efforts, on the pretext that they have not found any minerals. However, even if they do not find the stones they have been mining for a long time, they must be paid. This has an impact on their families, especially as a result of which some of their children are exposed to malnutrition.
There are still fatal accidents for mining workers, sometimes due to the lack of training on health and safety at work;
Employees are frequently fired in violation of labor law, saying that they have not yet reached the mineral stones, even though they have worked for a long time. And sometimes When a miner arrives at the mines, he or she may be fired before harvesting and receiving payment
Some workers do not undergo a medical checkup, especially for respiratory illnesses. Because some employees when they have been or have been out of work for a long time complain of respiratory diseases and find it difficult to know where it started due to lack of timely examination
There are miners who are underpaid or who are given tasks that are unrelated to their training, and some of them abandon their positions as a result.

Source: <https://rewu.org.rw>.

According to a report by the National institute of Statistics (NISR, 2019), Rwanda's mining sector still faces challenges, including the following;

- ✓ Lack of management of topsoil from mining operations,
- ✓ Lack of erosion control plan of mine sites,
- ✓ deforestation?
- ✓ Mining undertaken in rivers and wetlands,
- ✓ Lack of adequate facilities to capture wastewater from washing minerals and tailings, and
- ✓ Lack of dust control to protect workers and surrounding community.

At the stage of rehabilitation and closure of mine sites, the Office of the Auditor General of State Finances (2015) highlighted a list of emerging issues also pertaining the mining sector, namely:

- ✓ Lack of implementation of the Environmental Impact Assessment (EIA) and Environmental Management Plans (EMP),
- ✓ Lack of timely rehabilitation of abandoned mine sites,
- ✓ Lack of mine closure plans,
- ✓ Some mine sites, the mining operations are only for subsurface mineralized portions, leaving mineral deposits behind, thus complicates and delays mine closure, or it provides the opportunity for re-opening of old mine in the future. Mine closure and rehabilitation are thus not a priority for some mining companies.

In the same vein, CYESA, (2019) also added Lack of involvement of surrounding community who are mainly affected by the impact of the related activities and Inefficient mining and processing practices, poor management of water and mineral wastes and an absence of effective closure and rehabilitation activities as the main challenges in the mining sector of Rwanda. Hence, this shows the practical reasons for this study, especially the in-depth assessment of transparency and compliance in the mining sector of Rwanda.

3. METHODOLOGY

This study combined both quantitative and qualitative approach. Eligible respondents include public who are aged beyond 18 years. Four techniques were used to enable researchers gathering quantitative and qualitative data. From a quantitative perspective, the study involved a structured questionnaire to collect primary data from Mining workers and mining sites managers on their opinions and experiences on dimensions described in the specific objectives while the qualitative approach was used to triangulate, understand and interpret the quantitative data. These include Focus Group Discussions (FGDs), Key Informants Interviews (KII), desk review techniques.

3.1. Desk review

The Consultant undertaken a detailed review of all relevant documents in mining sector. This consists of mapping all certified mines at the national level and Extensive review of Rwanda's mining laws, policies and regulations, as well as relevant literature on the sector The key documents reviewed include;

- i. Document
List of certified mine sites in Rwanda
- ii. Laws
- iii. Ministerial instructions, orders, and regulations
- iv. Policies
- v. International commitments

3.2. Interviews

As a primary source of knowledge and information, the Consultant organized interviews with stakeholders. The consultant used a combined method of structured survey Questionnaires and independent individual in-depth interviews on collecting views and opinion of selected stakeholders in the mining sector the interviewees were asked key questions outlined in the interview guide. The interviews were also used to clarify questions arising from the desk review.

3.3. Primary data

3.3.1. Target population

The study population of this study is comprised of mining workers; mining sites managers and mining companies' owners aged beyond 18 years.

3.3.2. Sampling strategy

A multistage cluster sampling technique with proportional allocation was used to select different groups of participants in mining sector namely; mining workers, mining sites managers and mining companies' owners. The list of registered respondents in each group were obtained from their respective workplaces. The rationale for choosing this technique is its simplicity and it gives assurance that the population is evenly sampled and divides the population into groups (or clusters) for conducting research.

3.3.3. Sample size

The sample size in this survey was determined using the RAOSOFT online sample calculator. The standard deviation is set at 1.96 for 95% confidence interval with a margin of error of 4%. Such a sample size provides a base for meaningful comparison to undertake statistically valid sub stratifications that fall within acceptable confidence level. According to RAOSOFT, the sample size was computed using the formula below:

$$x = Z(c/100)^2 r(100-r)$$
$$n = N x / ((N-1)E^2 + x)$$
$$E = \text{Sqrt}[(N - n)x / n(N-1)]$$

Where N is the population size, n is desired sample size, r is the fraction of responses that we are interested in, and Z(c/100) is the critical value for the confidence level c. Hence, according to the raosoft sample size calculator, a minimum sample size of 600 respondents is required to achieve a margin of error of 4% with a 95% confidence interval. As several studies have proven, it is ethically acceptable to have more respondents than anticipated. It's beneficial to have a higher-than-expected response rate. As a result of the above reasons, we distributed survey questionnaire to 696 respondents, which is more than the required sample size, in order to ensure that the required sample size is met.

Table 3: The sample size of the survey

No	Groups of respondents	Estimated Sample size(n)	Surveyed sample size
1	MINE WORKERS	570	570
2	MINING SITE MANAGERS	126	126
	Total	696	696

Due to some absence of respondents during data collection process, the total 696 questionnaires was fully completed including 570 from mineworkers and 126 from mining site managers. The distribution of survey questionnaires to different groups of respondents is presented in the table below.

Table 4: Surveyed sample size by districts

DISTRICT	Group	Count
NYARUGENGE	MINEWORKERS	37
	MINING SITE MANAGERS	8
MUHANGA	MINEWORKERS	42
	MINING SITE MANAGERS	7
KAMONYI	MINEWORKERS	41
	MINING SITE MANAGERS	13
RUTSIRO	MINEWORKERS	45
	MINING SITE MANAGERS	21
NGORORERO	MINEWORKERS	43
	MINING SITE MANAGERS	19
GAKENKE	MINEWORKERS	39
	MINING SITE MANAGERS	13
MUSANZE	MINEWORKERS	16
	MINING SITE MANAGERS	11
BURERA	MINEWORKERS	20
	MINING SITE MANAGERS	10
RWAMAGANA	MINEWORKERS	102
	MINING SITE MANAGERS	2
GATSIBO	MINEWORKERS	95
	MINING SITE MANAGERS	10
KAYONZA	MINEWORKERS	42
	MINING SITE MANAGERS	5
BUGESERA	MINEWORKERS	48
	MINING SITE MANAGERS	7
TOTAL		696

A multi-stage sampling technique was used to guide the selection of districts, sectors, cells and villages to eventually reach individual respondents. 12 districts were selected where at least each province and the city of Kigali was presented.

KEY INDICATORS ANALYZED IN THE SURVEY

In respect of the survey objectives, five indicators were derived as follows:

- ☒ The level of transparency in the enforcement of the law on Mining Quarry operations
- ☒ Compliance in extractive industry
- ☒ Gender is mainstreamed in mining sector
- ☒ The risk coping mechanisms in place to deal with socioeconomic and environment issues related to mining activities
- ☒ Socio-economic impact of mining on local communities and mineworkers

3.4. Data collection

The respondent's working institutions was contacted two weeks prior to the data collection to solicit for their support. A structured questionnaire was prepared consisting of a series of questions for gathering information from respondents. The questionnaire composed of both closed ended and open questions. Enumerators used a structured individual questionnaire to each respondent. It was administered to interview individuals and was as short as possible in order to use as little as possible respondent's time and to avoid boredom. Skilled interviewers

and team leaders were recruited according to their experiences in data collection to collect the data. FGDs, KIIs were facilitated by assistant researchers under the coordination of the lead consultant.

3.5. Data analysis

As regards the data analysis, SPSS was used for data analysis. An experienced IT/Statistician was hired to that end. During the data collection, quantitative data were captured in the tablets by enumerators under the supervision of team leaders who submitted the collected data on daily basis to the IT specialist/statistician. The IT specialist generated graphs and/or tables based on the tabulation plan. As far as qualitative data is concerned, the researchers used the content analysis method will analyze data from interviews and FGDs. For both quantitative and qualitative data, researchers and IT specialist/Statistician did analysis and interpretation. Efforts was made in all situations to ensure data triangulation and crosschecking of potential errors from various data sources.

3.6. Ethical considerations

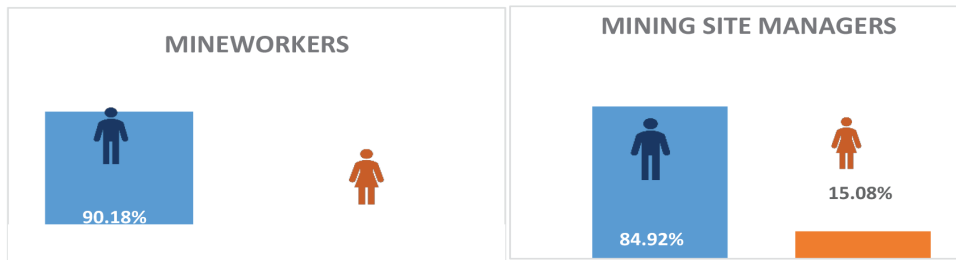
Our search for information does not violate such ethical values, including the responsibility to avoid harming or embarrassing respondents and to respect their privacy. We, as researchers, must first question ourselves about the ethical significance of any study with regard to the principles and actions we take to complete it. For this reason, a series of procedures to comply with ethical guidelines was followed by consultants during the entire study process.

- ✓ Informed consent, after having received and understood all the research-related information, respondent will voluntarily provide his or her willingness to participate in this study
- ✓ Beneficence- Do not harm, the purpose of research is to discover new information that would be helpful to society
- ✓ Respect for anonymity and confidentiality, the researcher will know the identity of a research subject, but takes steps to protect that identity from being discovered by others and ensure that identity of individual respondent is not known to researchers.
- ✓ Respect for privacy, not to share respondents detail with someone else

4. PRESENTATIONS OF THE FINDINGS

Section 1: Demography

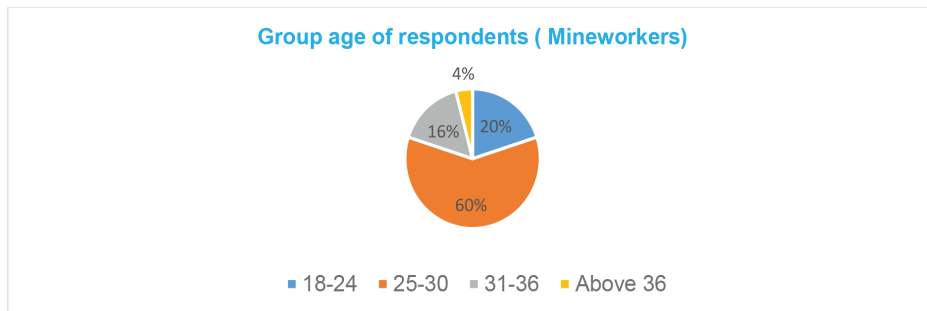
Figure 1: Gender of Respondents



Women and men may have very different roles in the household and community, driven by cultural or religious values. These roles may dictate whether and how women and men work together in mines or in other components of the mining cycle and value chain (USAID, 2017). As a result, we'd like to know if gender equality is recognized in the mining industry, particularly in the employment of miners. As the figures reveal, the mining industry in Rwanda has a serious disregard for gender equality. As statistics show, Females account for fewer than 10% of mine workers, whereas managers of mining sites account for less than 16% of respondents. These findings are in line with the United States Agency for International Development's report. According to this report, though Rwanda is progressing in integrating gender equality through both public and private sector initiatives, the transformative potential of policies geared towards addressing gender equality is limited by deep-rooted social norms, gender roles, and cultural perceptions and practices within which inequalities and exclusion are embedded (USAID, 2019). As a result, these findings highlight the strategies and efforts required to ensure that gender equality is recognized in Rwanda's mining sector. This issue was also raised in an interview with the mining sector management, and they responded to us in the following words;

“The previous law had a gap but because we have a new law we are going to implement it. We are going to connect with our partners including government agencies and existing organizations such as Rwanda Extractive Workers Union, Women in Mining and others. It has been proven that the treatment of miners deters women from working there. For example, where you find some mining companies have toilets or where they change clothes only for men. As a result, we're collaborating with Gender Monitoring Office, ECD and REWU on a UNICEF-funded project to see if women will join mining operations once these infrastructures are in place. Also, in the 2018 Act we have included that the company should look at measures to facilitate women”. **Interviewed official from RMB**

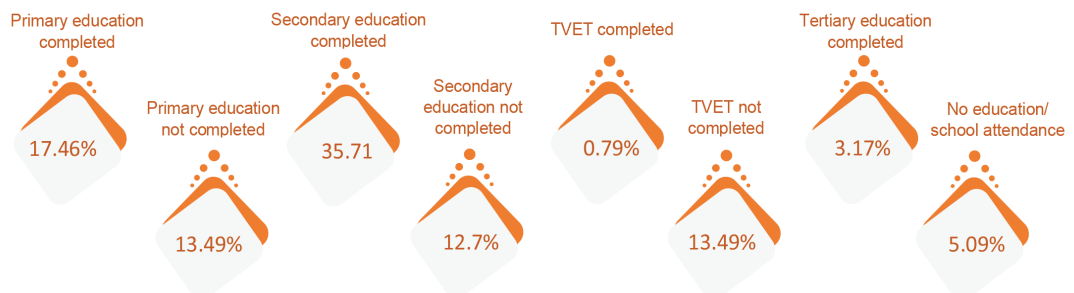
Figure 2: Age of Respondents



According to the findings, the mining sector employs young workers, with a large number of respondents (60%) between the ages of 25 and 30. While others are between the ages of 18 and 24. Another small number of respondents have between 31 and 36, while statistics show that mineworkers over the age of 36 are very few.

Figure 3: Level of Education

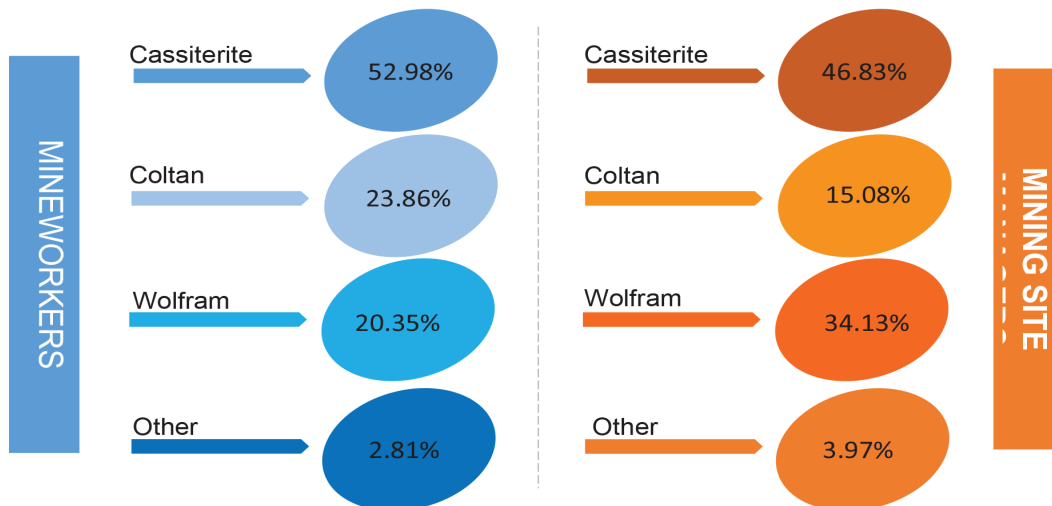
Mining site Managers



As the figures show, it is clear that the managers of the mining sites are not adequately trained, this is evidenced by the small number of respondents who have studied TVET while mining is taught in TVET schools. This is also demonstrated by the minimal number of respondents who have graduated from higher education institutions such as colleges and universities. According to the data, the majority of respondents merely completed high school, with some claiming to have never completed any formal schooling. These findings fit perfectly with the assessment report made in 2017 by International Institute for Sustainable Development. An assessment report by international company with huge experience of mining governance, reveals gaps in knowledge of managers and supervisors of mining operations in Rwanda (IGF, 2017). So this highlights the efforts needed to employ skilled workers in mining, which will increase the production of mining in Rwanda. In an attempt to figure out what was causing the problem, we approached the management at RMB in an interview and they responded to us in the following words;

“We are aware of this issue, but it is still in the process of being resolved. Although mining businesses lack skilled workers, we have the same problem on our side, particularly the issue of unskilled mining inspectors at the district level, despite the fact that they are in charge of inspecting mining operations. We have started a process to recruit professional staff with expertise in mining, and mining companies have also been asked to hire specialists in mining and environment protection, so that the problem can be solved”. Interviewed official from RMB

Figure 4: Kinds of Mineral resources



As statistics show, Rwanda has the potential for the five categories of minerals mentioned in the figure above. These findings fit perfectly with the IGF mining policy assessment on Rwanda in 2017 by IGF.(2017). In this report, IGF asserted that the most prominent are the rare metals of tin ore (cassiterite), tungsten ore (wolframite) and tantalite (coltan); tin, tungsten, tantalum are commonly known as the 3Ts. Gold is also mined.

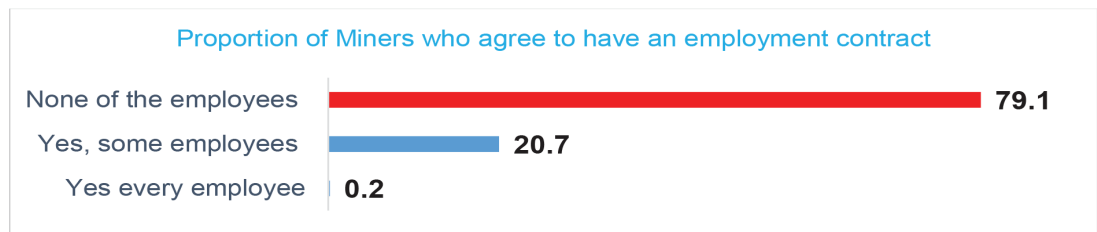
Section 2. Transparency in the enforcement of the Law on Mining and Quarry Operations

Corporate transparency and compliance involving companies themselves, governments, and other stakeholders, and joint efforts are necessary for pushing forward good governance of natural resources. Except for corporate voluntary information disclosure through releasing compliance anti-corruption reports, the governments should play a more active role in encouraging corporate transparency and compliance by endorsing internationally accepted standards (DELOITTE, 2013). However, some issues remain problematic in many countries, where sustained lobbying from companies to delay compliance are significant examples (IIED, 2015). In this context, the study aims to determine the level of transparency and compliance in the extractive industry in Rwanda.

Employment Contract

Labour law is fundamental in creating and maintaining employee relations, high productivity and a conducive work environment. Knowledge of the Labour Law makes work for HR professionals easier, consistent, predictable and accurate. It improves the work environment by ensuring that the parties to the employment relationship treat each other with respect, dignity, fairness and justice. Labour disputes are minimized and when they occur are resolved amicably within well-defined guidelines. Rwanda repealed the labour law in 2018 to align it to international best practice. The employer's obligations under Rwandan labor law include issuing employment contracts to all employees. There are potential sources of grievances that are addressed by having employment contracts that abide with the law (Art. 11). An employment contract can be fixed term or indefinite, written or unwritten (Waweru, 2019). The study therefore sought to determine whether miners are given employment contracts as provided by the Labor Code in Rwanda.

Figure 5: Issuing employment contracts in mining sector



Several studies demonstrate that Rwanda has made substantial progress in increasing mining sector productivity, which contributes significantly to the country's economy. On the other hand, however, statistics in this study show that there is still a considerable gap, particularly in terms of compliance, with a large proportion of respondents (79.1%) confirming that mine workers are employed without contracts.

An employment contract is a kind of contract used in labour law to attribute rights and responsibilities between parties to a bargain. If drafted properly, an employment contract will provide security and protection for both the employer and the employee (ILO, 2015). In this context, as has been shown in various studies, working without employment leads to ambiguous employment relationships between employees and employers. Ambiguous employment relationships may arise when the respective rights and obligations of the parties concerned are not clear, or when inadequacies or gaps exist in the legislation, including regarding the interpretation of legal provisions and their implementation (ILO, 2015).

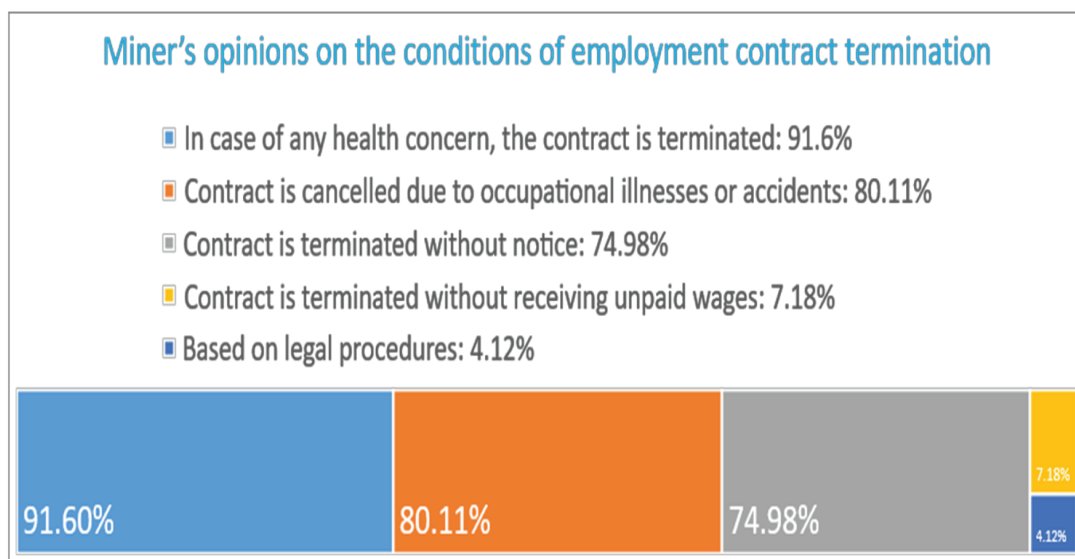
Employment contract highlight important terms and conditions of employment such as; hours of work, leave, award coverage, remuneration, employment status, position, notice periods and position description. So, in the absence of employment contracts, it would have a serious impact on the well-being of workers, especially the lack of a clear understanding of their responsibilities and rights, which could lead to injustice and violence against workers. While on the side of employers, it would have a negative impact on employee productivity because they do not know their responsibilities, and also the lack of employment contracts is against the law of labor in Rwanda (see, LAW N° 51/2001 OF 30/12/2001 ESTABLISHING THE

LABOUR CODE). It is therefore vital that the relevant authorities closely monitor compliance in the mining sector, especially in terms of employment contracts to improve mineworker's welfare and productivity in the sector.

Termination of employment contracts

Violation of rights during termination is a common cause of grievances and disputes in employment (Waweru, 2019). As per the Labor Code of Rwanda, a contract for employment can be terminated by 1) mutual consent of both parties. This applies for both for both fixed term and indefinite contracts. 2) Expiry of a fixed term contract. This does not ordinarily raise disputes except perhaps in regard to payment for work already done and outstanding annual leave. 3) Termination due to valid reasons. This study therefore seeks to determine whether termination of the employment contract is based on the legal procedures in the mining sector in Rwanda.

Figure 6: Reviews of the respondents on the termination of employment contracts in mining sector



According to the findings, a large number of respondents indicate that the termination of the employment contract is carried out illegally, with many (80.6%) argue that when an employee suffers from a work-related illness, he or she is immediately fired. Many others (91.6%), on the other hand, claim that if an employee has a health condition, he is quickly fired rather than being tolerated. What happens to pregnant mine workers or another mining worker with a little illness would pique everyone's curious. Many respondents (74.98%) also expressed concern about contracts being cancelled without notice Yet, the labor law in Rwanda (Art 27 and 28) stipulates that the period for termination notice is 15 days (if an employee had worked for less than 12 months of service) but if an employee had worked for one year or longer the applicable notice period is 30 days. These various problems identified by the findings therefore have a

negative impact on miners, and are even one of the reasons why females do not participate in mining. In the interview, we approached various key authorities, including leaders in mining sector and mining firm owners, to find out the main reason why miners are not given employment contracts. The following are some of their views:

“We all know that’s a significant concern, and it makes miners unstable in the workplace, making them more likely to hunt for work in other industries like brick making and so on, which I often find is related to mining firms’ limited resources. Moreover, because miners tend to be unstable at work it makes us (those with the ability and the will) just hesitant to grant them a job contract. Another reason in my opinion, is that most mining companies do not have sufficient financial resources and are thus afraid to provide employment contracts to employees for fear of having to pay taxes and other benefits to contractual workers”. **Interview with a Mining company owner in one of the selected districts**

“We also know that many miners are not granted contracts of employment. However, there is a new law that was passed in August 2018 and for which we completed an awareness campaign in December. The law was enacted to safeguard miners as well as the environment. In contrast to the first law, which had no penalties, this one does. We want all mining businesses to issue employment contracts to their workers, and we will do it as soon as possible under the law. Employees would be more likely to receive perks such as retirement benefits and loans since they would be more secure and contracted”. **Interview with an official from RMB**

Hiring, Remuneration and leave practices in mining sector

As it well known, managers that seek to improve HR fair practice may see positive effects on organizational performance. Organizational HR fair practices are one of the indicators of transparency and compliance. Within this context, this study seek to determine if mining companies include Fair practices such as hiring, compensation and leave.

Figure 7: Conditions of Recruitment



Figure 8: Conditions of remuneration

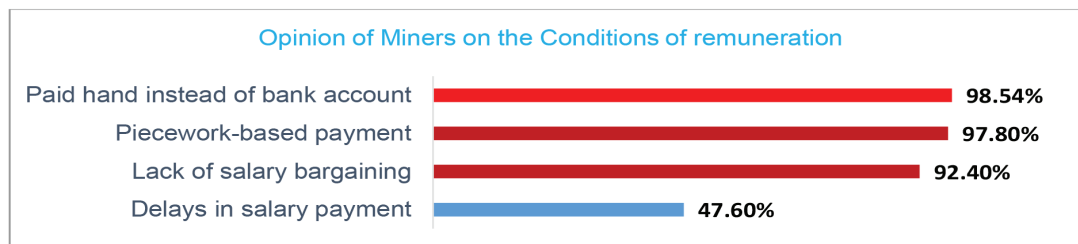
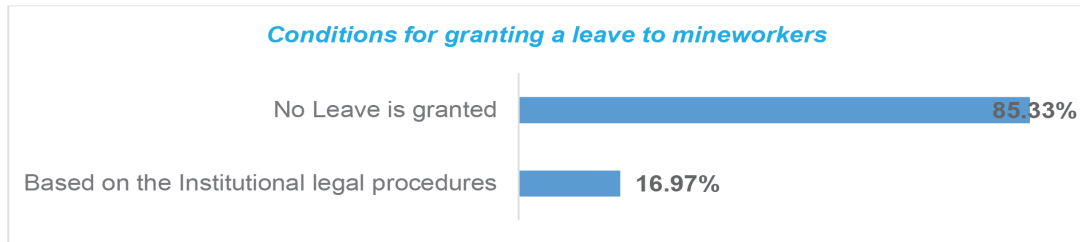


Figure 9: Granting a Leave to Mineworkers



A large majority of respondents (more than 80%) have attested to another significant flaw in mining company governance, claiming that employee selection is based on family ties and friendships. In fact, this is a major problem in the mining sector's governance, as it puts the industry at risk of corruption and, of course, it would reduce Rwanda's mining sector's productivity because potential employees would be less willing to join if the hiring process is still tainted by corruption. While a substantial majority of respondents (more than 90%) report other governance flaws such as a lack of salary / wage bargaining rights, salary/ wage payment by hand rather than using their bank accounts, and the most challenging issue, being paid on a piecework basis. On the other hand, statistics suggest that there is a problem of salary/wage payment delays. In fact, this is a severe issue for mineworkers, who are most likely to be living in extreme poverty despite having a job. Workers who are paid by hand are more likely to squander their money and end up in poverty. In the same vein, delays in remuneration also leads to borrowing from nearby stores/ shops, thus also causing them poverty.

With regard to the rights to bargain, Article 91 of Rwanda's labor code lists the items that must be included in a collective bargaining agreement. These include conditions for recruitment and termination, employees' right of joining trade union and freedom of opinion, categories of professional cadres and salary applicable to each, overtime rates, probation period, paid leave, seniority allowance, will be settled, and commencement date of the collective agreement. Despite the Labor Code's provisions, the findings reveal that mineworkers do not have the right to bargain over their working conditions and benefits. But because miners are so eager for work, it makes them willing to work for a lower salary, thus putting them in poverty yet they are said to have wages.

When it comes to paid leave for mineworkers, a huge majority of respondents (more than 80%) say that no leave is granted to mineworkers. As it widely known, taking leave is essential. It promotes good physical and mental health in the workplace and improves people's work-life balance, which reduces stress and unscheduled days off. Some common reasons employees take a leave of absence are to recover from a serious illness, undergo a medical procedure,

assist a family member, or welcome a new child into the family. Although leaves are important for workers in general, findings suggest that many workers in mining sector are not given leaves. In fact, this is contrary to the Labor Code of Rwanda where it states that Weekly rest breaks of not less than 24 hours should be provided to the employee (Art 44). This clearly demonstrates how miners are being denied basic rights, and it is apparent that some mineworkers are being treated unfairly in the mining industry. However, as per the findings, there is still a significant gap in the mining sector, and these findings also highlight the efforts needed to promote transparency in the mining sector of Rwanda. This would also be consistent with the significant number of respondents who indicated that many miners work without employment contracts. Miners without contracts, understandably, are not entitled to leave or compensation, especially since the employment contract determine how compensation and leave are provided to employees in general. The following are some of the responses we received from miners we approached during the interview.

“Mineworkers are often called for work if they are friend with the site manager, or if a friend connects them, or if someone in their family is connected with the firm owners or some of the mining company management”. **A Mineworker interviewed in some of selected districts**

Our wages are often delay, affecting us such as borrowing food from nearby shops/stores, sometimes digging for a long time but running out of stones, in such case we are not paid, it has a huge impact on us working like 3 days without being paid. **A Mineworker interviewed in some of selected districts**

Licensing, Approval and Inspection in Mining Sector

In the mining license application and approval context, the TI study noted that corruption is more likely to occur when steps in the licensing process are unclear, information in the license register is missing or not publicly available, the licensing authority is under resourced, and decision-making criteria are unclear or decisions are vulnerable to ministerial interference (TI, 2017). Thus, it is in this context that, this study aims to determine the level of transparency in the process of acquiring various documents in the mining sector.

Figure 10: Mining Site Manager's Views on Fairness in Licensing in Mining Sector

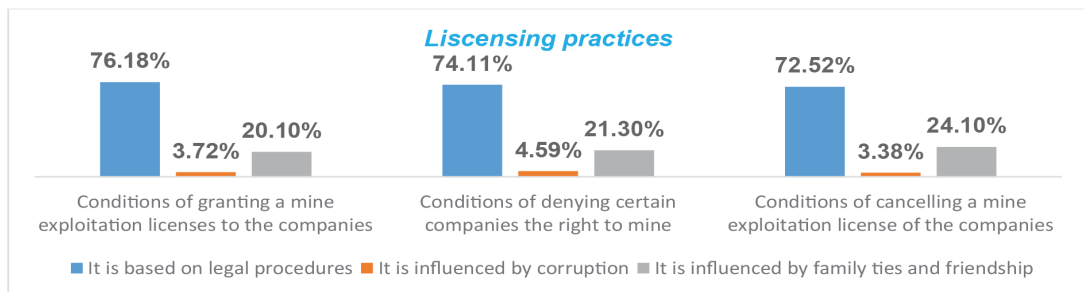


Figure 11: Mining Site Manager's views on Fairness in application approval in mining sector

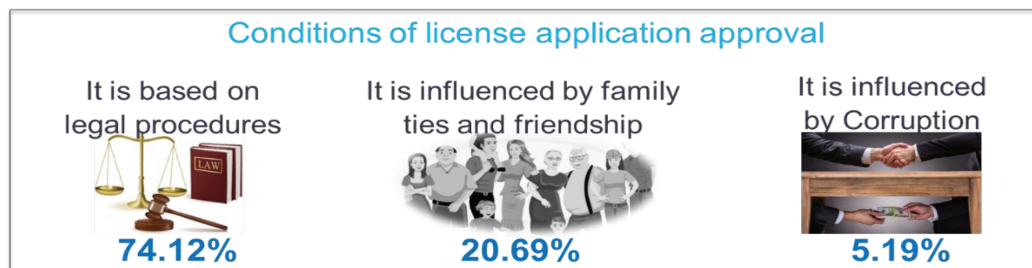
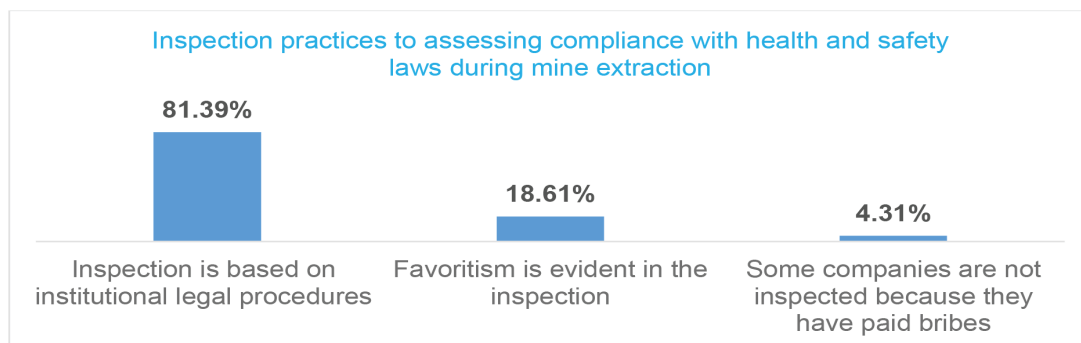


Figure 12: Mining Site manager's views on Inspection



As can be seen from the statistics, the respondents pointed out some of the practices that strengthen transparency in their institutions including the following; More than 70% of respondents believe that the issuing or denial of a mining operation license is based on the legal procedures. They even added that when the license is to be revoked it is likewise done through legal procedures. On the other hand, over 70% of respondents felt that the approval of license applications is transparent and based on legal procedures. While more than 70% of all respondents claim that inspections are conducted in compliance with legal procedures.

Although there appears to have been a major improvement in the transparency of mining license issuance in Rwanda, there is still a loophole that can lead to corruption, even if it is not severe. This is based on the number of respondents (more than 20%) who believe that friendship and family links have an influence on granting, denial, and revocation of mining licenses. While on the other hand more than 18% of respondents believe that favouritism is evident when it comes to compliance inspections. Hence, it is vital to eliminate the corruption cases that still evident in the mining license issuance process, as it might have major effects, such as non-compliance with environmental protection regulations and poor mining productivity. During interview, we approached some miners to find out what they had to say about it, and they responded in the following words.

“Mine inspections are typically done effectively, but there are still concerns that can lead to corruption risk, where some mining business owners, for example, often become close friends with inspectors, where they give them gifts. In addition, inspectors are frequently unable to travel to the site due to a lack of transportation. As a result, they are sometimes driven by mining company owners in their own cars. This, in my opinion, can lead to a friendship, resulting in the inspection not being done objectively”. **Mining site manager interviewed in one of selected districts**

In general, I believe mining documents are delivered in an open and clear manner, although there are still issues. Some people, for example, would rather pay small bribes to speed up the approval of a license application, or find someone who have family ties with licensors to assist him/her in speeding up those services. **Mining company owner interviewed in one of selected district**

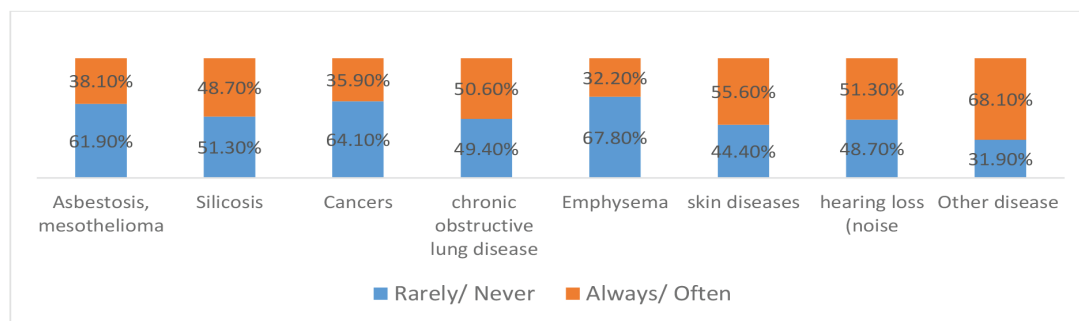
Section 3. Compliance in the extractive industry

Mining provides vital commodities for a wide range of products and services and has done so through the centuries.(UNDP, 2018a). Minerals have become an increasingly important source of revenue for Rwanda, showing potential as an avenue to facilitate growth and economic transformation in the country (Rupert Cook & Paul Mitchell, 2014). Although mining is of great importance to the public and the country as a whole, various studies have shown that mining operations harm the environment in various ways. As recommended by UNDP, efforts to mitigate environmental impacts, protect human rights, promote social inclusion and enhance benefits from mining for development should be taken throughout the life of a mine and the whole value chain of mining(UNDP, 2018b). in the same view, as has been reported in various studies, mining remains one of the most hazardous occupations in the world, both in terms of short term injuries and fatalities, but also due to long term impacts such as cancers and respiratory conditions such as silicosis, asbestosis and pneumoconiosis (WORLD BANK GROUP, 2017). However, the purpose of this research was to learn about some of the approaches used to comply with environmental protection regulations during mining operations

Compliance with safety measures in the mining sector

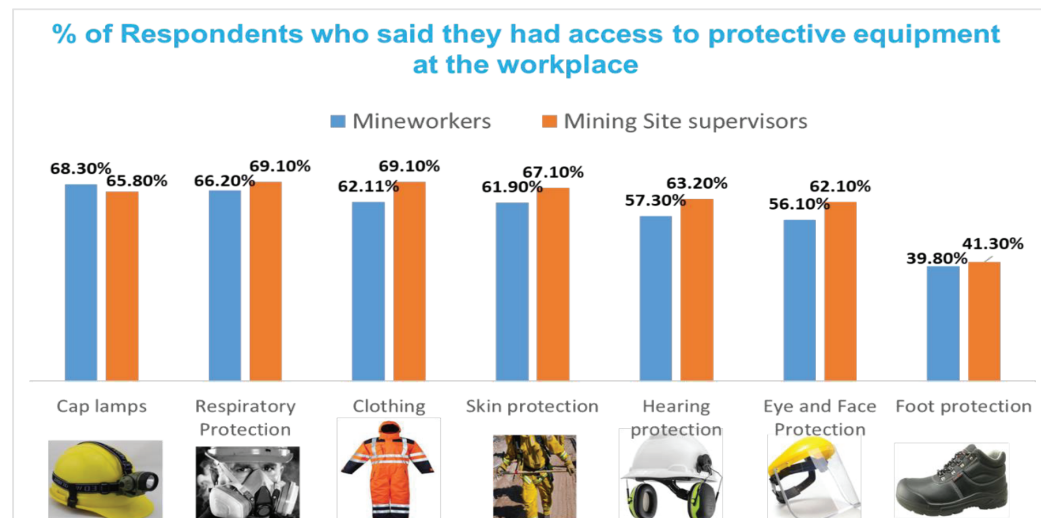
With increasing demand of minerals, more and more people are employed in this industry which involves hazardous tasks and thus, proper safety measures are required to protect the workers from the dangerous diseases or disabilities that can result from them. According to several studies, miners are at risk of developing various diseases such as pneumoconiosis because of their exposure to airborne respirable dust. Miners who work underground often use diesel machines to carry out their work. There are more toxic materials to consider, including aerosols, blasting fumes, dust, and gases that are released from the rock (ILO, 2001). In light of these various risks, this study seeks to determine if safeguards policies are strengthened to protect miners in Rwanda.

Figure 13: Frequency of Diseases that often affect Mineworkers



As per the statistics, there are a variety of diseases that often affect miners, such as skin diseases, chronic obstructive lung disease and hearing loss as reported by more than 50% Of respondents. Respondents, on the other hand, confirmed that diseases such as silicosis, Emphysema, cancers and asbestosis emphysema, as well as mesothelioma, frequently affect miners, as confirmed by more than 35% of the total respondents. Furthermore, approximately 70% of respondents stated that there were other diseases that were more common but had not been identified. Thus, these findings are consistent with those of a number of other studies, which reveal that mining has a direct impact on people’s health when they labor in hazardous settings and are exposed to poisonous chemicals. It is therefore important that the relevant authorities monitor effectively the safety practices of mining companies in order to protect the lives of miners.

Figure 14: Availability of Equipment to prevent illness or accidents during mining operations



As revealed in the findings, respondents who believe that miners are always or regularly provided with equipment during mine operations are less than 70% of both mineworkers and site managers. As recommended by international Labour Organization (ILO), Where possible, the mining companies should provide adequate facilities at the mine sites. The mines operator should provide, free of charge, the personal protective equipment that is to be worn when hazards cannot be eliminated and ensure that it is worn properly and maintained in good condition (ILO, 2001). However, although protective equipment is required, it is clear that mineworkers in Rwanda do not have sufficient equipment to prevent illness or occupational accidents as appropriate.

In its various reports, ILO asserted that a wide range of occupations require eye and face protectors: hazards include flying particles, fumes or corrosive solids, liquids or vapours in polishing, grinding, cutting, blasting, crushing, galvanizing or various chemical operations; against intensive light as in laser operations; and against ultraviolet or infrared radiation in welding or furnace operations of the many types of eye and face protection available, there is a correct type for each hazard. Whole-face protection is preferred for certain severe risks (ILO,2015). So this shows a significant gap in mining sector of Rwanda since mineworkers are not provided with sufficient eye and face protection, putting them at high risk and can lead to illnesses and fatal accidents.

On the other hand, loud noises are the number one cause of hearing damage. if workers are exposed to these noise levels without protection, then hearing loss is very likely. Hearing protection is the only way to keep your hearing from becoming prematurely damaged. As reported in mines Safety Bulletin No. 153, the severe or repeated stress associated with noise exposure (including occupational) causes permanent damage to neural tissue in the inner ear, leading to hearing loss. Hearing loss can impair communication and is associated with an acceleration of cognitive ageing and increased risk of dementia. As neural tissue cannot regrow once it is lost, there is limited scope for recovery once the consequences of noise exposure become detectable (Mineral house Australia, 2018). Therefore, control of noise emissions at source and avoidance of exposure are critical to hearing conservation. As it turns out, there is still a considerable gap in hearing protection, and the health effects, including irreversible hearing loss, have been highlighted as a result of the lack of attention.

AS discussed in various studies, working underground can be a very difficult and sometimes unpredictable working environment. Each occupation contains its own risk to employees, but for mining and quarrying workers, this level of risk is dramatically heightened. According to a report by the European Agency for Safety and Health at Work, the mining and quarrying industries have the highest number of incidences of skin disease (TARSC, 2018). Although miners have a higher risk of skin damage, according to various studies, statistics show that in

the mining sector in Rwanda, skin protection is not valued properly. This is evidenced in the findings, where only 61.9% (mineworkers) and 67.1% (mining site managers) say they always provided with skin protection during mining. These suggests that the remaining respondents do not have access to this equipment on a regular basis in their mining operations.

Although statistics show that steps have been taken to provide miners with safety equipment, but it is also evident that there is still a gap and it is very worrying, especially as the lack of access to safety equipment affects the lives of miners, when mineworkers are not properly cared for and protected against occupational diseases and accidents, it can result in catastrophic consequences for them, such as chronic illness and even death. In an interview, we asked different authorities in the mining sector about the major reason why miners are not given enough equipment during mining operations, and they responded in the following words.

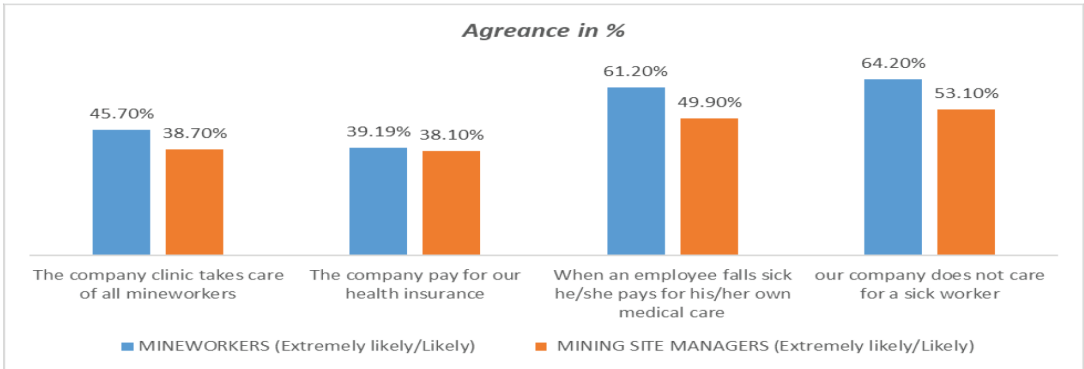
“Companies that do not have Personal Protective Equipment (PPE) or Insurance are regularly closed. The problem has been rectified, though not totally. Clothing, as well as Boot and Cask, are frequently available. We want them to wear steel-toed boots, but finding them in Rwandan markets is difficult since vendors frequently do not have them”. **Interview with an Official at RMB**

Some mining companies are breaching mining standards. They only provide protective equipment during inspections (Interview with a Mineral field officer in one of the selected district)

Access to medical services

As recommended by International labour organization (ILO), the health of mineworkers should be checked by a competent physician before being assigned to work in a mine for the first time. Periodic health examinations should also be arranged, especially for workers in places where the material handled or the process could be hazardous to health. A mineworker who is ill or in any way incapable of normal activity should not be allowed to work. The mine operator should make such provisions as may be necessary to ensure appropriate health care, welfare and hygiene of mineworkers. (ILO, 2001). In this context, the study intended to examine if mineworkers receive adequate medical treatment and are treated properly when they are diagnosed with the disease, as recommended by the ILO.

Figure 15: Respondent's views on health care access



As shown in the figure above, despite the fact that mineworkers' access to medical care is critical, statistics reveal that there is still a gap, and the treatment provided to them is inadequate based on their level of risk. For instance, 64.2% of respondents (mineworkers) and 53.1% (mining site managers) of respondents believe that mineworkers are not given medical services when they are sick. On the other hand, 49.9% of respondents (mining site managers) and 61.2% (mineworkers) of respondents reported that mineworkers pay themselves for medical services when they are sick. In the same view, only 39.19% of respondents (mineworkers) and 38.1% (mining site managers) agree that their companies pay for health insurance as appropriate. Furthermore, less than half of the respondents (mineworkers and mining site managers) indicate that their companies have a partnership with health facilities to treat their employees, and that these clinics treat them when they get sick.

Despite the fact that there are a number of respondents who confirm that their companies provide medical services when they are sick, the number of denials is also alarming, especially considering mining operations that are at risk of illness or accidents at the highest level. Although each set of respondents was given a separate questionnaire, one of the most recurring evidence of weakness in medical services in the mining sector is that the answers supplied by mineworkers coincide with those provided by mining site managers, as the figures demonstrate. When mineworkers are ill and do not receive proper medical care, they may receive substandard medical care, such as inadequate traditional medicine, which can lead to chronic illness or death. We attempted to ask the various authorities in the mining sector, in an interview, the major reason why miners do not receive proper treatment when they suffer from occupational diseases related to mining, and they responded in the following statements;

“In fact, mining companies lack financial resources to build hospitals or clinics, but we do our best to engage with medical institutions and find accident insurance for miners to protect their health while working in the mines. However, these insurances frequently cover work-related accidents, to be honest, only a few mining companies treat their personnel; our companies lack the financial resources to treat sick miners, so they seek private care at nearby clinics”.

A Mining company owner interviewed in one of the selected districts

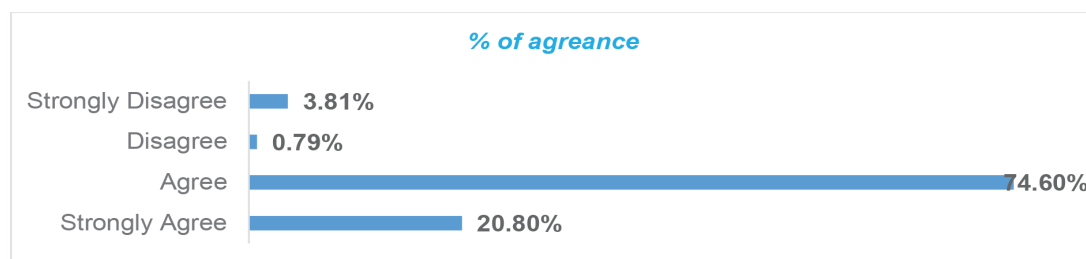
Some mining corporations sign memorandums of understanding with medical institutions to care for their sick miners, but not all are able to do so because it requires a substantial budget, which many do not have”. **Interviewed Official from RMB**

Compliance with Laws and Regulations on Child Labor in mining sector

Children need an encouraging family, social environment and stable country in order to grow into economically active and productive adults with the ability to participate effectively in the social, cultural, and political activities. But when involved in child labor or hard labour, children

can easily be affected by premature aging, malnutrition, depression, drug dependency, to mention but a few, which makes it a complex phenomenon that needs collective effort to address. According to a report by the National Commission for Human Rights a total of 421 children were found working in various forms of child labor in 11 districts in Rwanda, with 0.47% working in mines (NCHR, 2020). Thus, it is in this context that this study seeks to determine the extent of compliance with child labor law in the mining sector of Rwanda.

Figure 16: Mining site manager's views on the compliance with child labor law in their companies



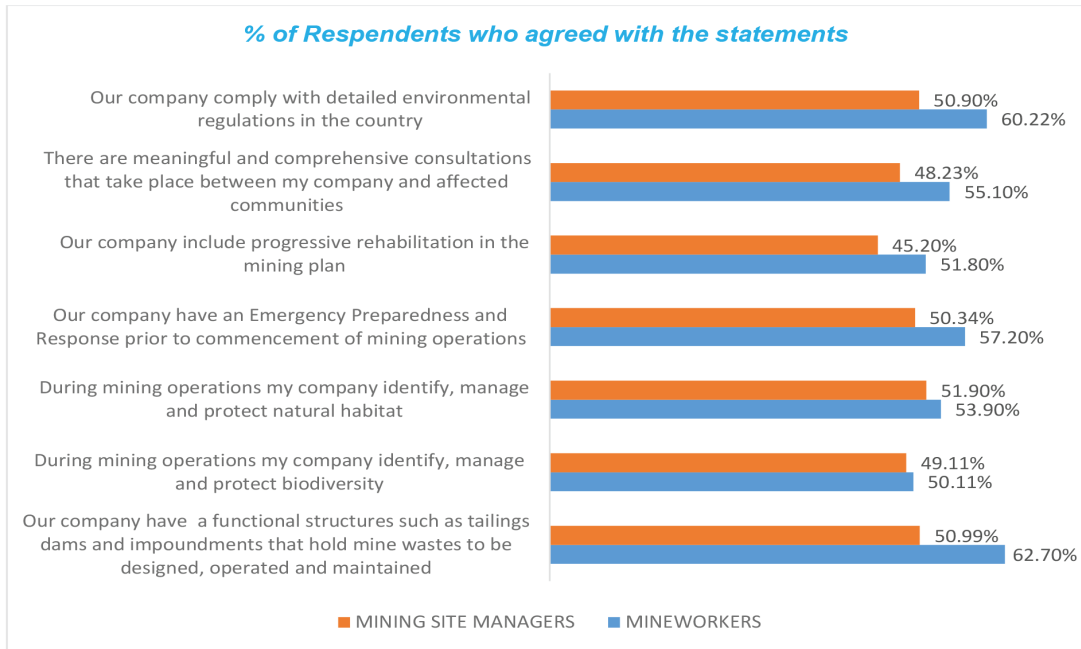
Article 6 of law No. 71/2018 of 31/08/2018 relating to the protection of the child defines a child as “any person under eighteen (18) years of age.” Article 6 of the law regulating labor in Rwanda, prohibits subjecting a child below the age of 18 to any form of works, which are physically harmful to the child; work underground, underwater, at dangerous heights or in confined space; work with dangerous machinery, equipment and tools or which involves manual handling or transport of heavy loads; work in an environment, which exposes the child to temperatures, noise levels or vibrations damaging his/her health; work for longer hours or during the night or performed in confined spaces. Thus, as can be seen from the findings, it is clear that some positive steps have been taken to comply with the law that prohibits the use of under age in Rwanda. As more than 90% of respondents believe that their companies not employ minors despite the fact that just about 3% of respondents say they have seen child labor at their workplaces. This is also in line with the findings of a survey conducted by the National Commission for Human Rights, which found that 0.47% of minors work in mines. It is therefore critical that the authorities step up their efforts to eradicate the practice of child labor in mining sector.

Compliance with environment protection

The extraction of minerals from nature often creates imbalances, which adversely affect the environment. The key environmental impacts of mining are on wildlife and fishery habitats, the water balance, local climates & the pattern of rainfall, sedimentation, the depletion of forests and the disruption of the ecology (USAID, 2017). However, to become more environmentally sustainable, mining operations must lessen the impact on the

environments surround mine sites. Thus, it is in this context that research is seeking to determine the management efforts to protect environment in mining companies in Rwanda.

Figure 17: Managerial practices that promote environmental protection



Although there appears to have been progress in the environmental protection during mining, statistics suggest a gap. As revealed in the graph above, an insufficient number of respondents (less than 52%) acknowledge that suitable measures to protect the environment are made in their institutions, and that their leaders place a high importance on the environment.

Where some respondents refer to governance flaws such as management failing to follow Rwanda's environmental protection rules adequately and managerial weakness in protecting biodiversity during mining operations. Other challenges identified include functional structures such as tailings dams and impoundments that hold mine wastes to be designed, operated and maintained, management and protection of natural habitats, Emergency Preparedness and Response prior to commencement of mining operations and progressive rehabilitation in the mining plan.

Respondents also mentioned their institution's management's inability to interact with the impacted community and come up with agreement on what should be done. In fact, this falls short of the UNDP's recommendations, where it requires mining companies to reach out to the community in decision-making that affects them. As argued by UNDP, the principle of consulting with people in making decisions that affect their lives is expressed in the principle

of free, prior and informed consent (FPIC), which is applicable to the rights of indigenous peoples in international law (UNDP, 2018b).

Environmental impacts often associated with the mining process include water and soil contamination, soil erosion, loss of biodiversity and adverse impacts of climate change due to gas emissions. The process of mining also includes large amount of waste materials or 'tailings' that can cause severe environmental damage if not handled appropriately by mining companies. Although important progress in improving the safety of mine workers has been made, the level of injuries and fatalities in the mining sector still remains high (UN environment, 2020). According to a UN Environment Report released last year, there are still serious problems with accidents, incurable diseases and deaths due to mining activities, in Rwanda despite the fact that there have been significant steps taken to protect the environment (according to respondents), there are still numbers of gaps in environmental conservation activities damaged by mine operations. However, despite the improvements made, the data demonstrate persisting weakness in Rwanda's mining sector, pointing to poor management practices that encourage environmental protection during mining operations. We wanted to know what the different mining authorities had to say about this, so we interviewed them and got the following responses.

"In fact, mining companies with its limited capacity are trying to intensify their efforts to mitigate the effects of mine operations on the environment. As is widely known, mining operations necessitate professionals, particularly those who have studied mining and gained experience, yet mining businesses continue to face challenges in employing such experts due to their limited financial resources. So some of the reasons why mitigation measures aren't being implemented properly are due to the lack of a well-qualified staff whether in mining or environmental protection. RMB, for example, requires that each mining company hire at least two engineers, one for mining operations and the other for environmental protection, but many companies do not have this capacity at the moment". **Mining company owner, in one of the selected districts.**

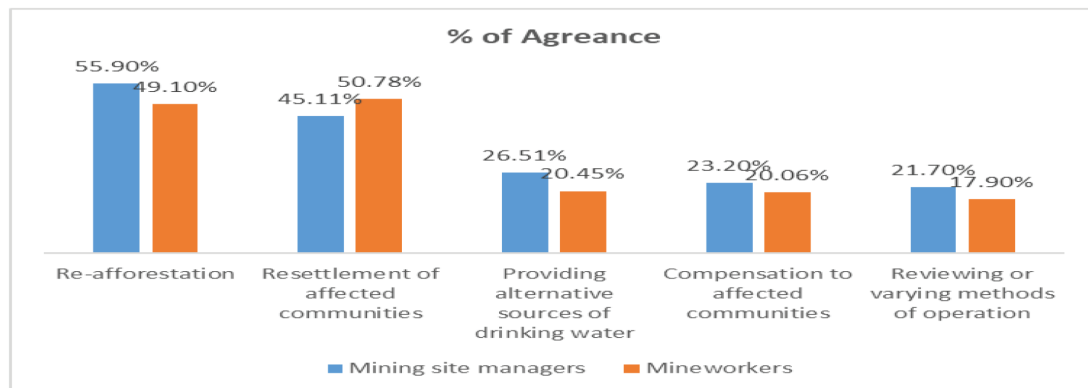
"The major issue is that both mining supervisors working for mining businesses and mining inspectors working for the government lack adequate expertise of mining operations. In 2017, employees were hired to do the inspection, however they lacked the necessary qualifications. In the new structure, we will replace the district's mineral field officers (whose contracts will expire in September) with qualified mining engineers and geologists. We expect that by placing them in the district, they would be able to provide technical support to the mining operations while properly preserving the environment." **interviewed official from RMB**

Compliance of mining companies to mitigate the negative impact of mine operations on the environment

Minerals have become an increasingly important source of revenue for Rwanda, showing potential as an avenue to facilitate growth and economic transformation in the country. (Rupert Cook & Paul Mitchell, 2014). Although mining is of great importance to the public and the country as a whole, various studies have shown that mining operations harm the environment in various ways. As recommended by UNDP, efforts to mitigate environmental impacts, protect human rights, promote social inclusion and enhance benefits from mining for development should be taken throughout the life of a mine and the whole value chain of mining (UNDP,

2018b). Therefore, the study sought to determine whether mining companies use appropriate efforts while mining in the context of environmental protection and mitigating adverse environmental effects.

Figure 17: Measures to mitigate the negative impact of mining operations on the environment



Despite the low response rate (less than 60% of the total respondents), statistics reveal that re-afforestation and resettlement of impacted communities are the most prevalent methods adopted by mining firms to mitigate the negative environmental impact of their operations. On the other hand, providing alternative sources of drinking water, Reviewing or varying methods of operation and compensation to affected communities are some of the measures not often used by mining companies to mitigate the negative impact of mining operations on the environment, as revealed in the findings. Although the findings suggest that company measures to minimize negative environmental consequences remain a work in progress, it is observed that considerable progress has been made, especially given the findings of prior studies that revealed a significant gap. Compared to previous findings over the past 10 years, it is clear that significant steps have been taken to reduce the impact of mining operations on the community and the environment in general. For example, in 2011, a report co-authored by the Smith School of Enterprise and the Environment and the University of Oxford showed a significant gap in environmental protection and mitigation of harmful effects caused by mining operations in Rwanda.

“The mining sector in Rwanda faces a number of challenges to its growth and development. Causes environmental degradation (e.g. river pollution) Can cause deforestation At risk from floods and storms Workforce affected by disease, heat waves ,Low capacity to implement law and policy No requirement for reporting on energy and water use Difficult to regulate artisanal miners, Low safety awareness” (Hogarth, 2011).

Considering the gaps that was evident in this report and looking at the findings of the current study, a substantial stride has been taken, although, a significant percentage of respondents believe there is still room for improvement. As a result, while mining corporations appear to be

taking steps to lessen the negative impact of their operations on the environment, more efforts are needed to better protect the environment and reduce the impact of mining activities on the community. We sought to know what the different authorities in the mining sector had to say about the matter during the interview, and they responded with the following statements.

Rwanda's minerals are frequently discovered underground. As a result, it's hard for mining activities to avoid destroying the land. To be honest, there are still flaws in the context of repairing the ecosystem that has been destroyed. In my opinion, it is due to a lack of financial means, while environmental rehabilitation requires a considerable expenditure". Mining site manager/Interviewed in one of the selected districts

Compensation disputes between communities and mining firms are widespread in the mining industry; we try to resolve them, but if that fails, we urge them to go to court. Mining operations must begin after compensation has been paid, according to the law, however this is not always the case. Mining corporations frequently begin operations with insufficient resources, resulting in compensation disputes with the community. Mineral field officer, in one of the selected districts

Section 4. Gender mainstreaming in Mining sector in Rwanda

Although, mining remains one of few livelihood options for the densely populated countries, contributing to an estimated employment of more than 34,000 people in Rwanda (Fitsum Weldegiorgis, 2016), women are in many countries largely underrepresented in the large-scale mining industry. In small-scale mining, female workers provide up to 50% of the workforce, but their pay typically lags behind that of male workers. There are significant gender disparities in male and female access to and types of jobs, and women are often left out of community decision-making processes (ILO, 2019). In this framework, the study intended to examine gender equality status in Rwanda's mining industry.

The 2018 mining law (article 36) promotes gender balance.

"Ensure that the quarry operations are carried out in accordance with applicable health and safety standards, including standards necessary to protect the health and safety of women; promote activities aiming at gender equality and complementarity";

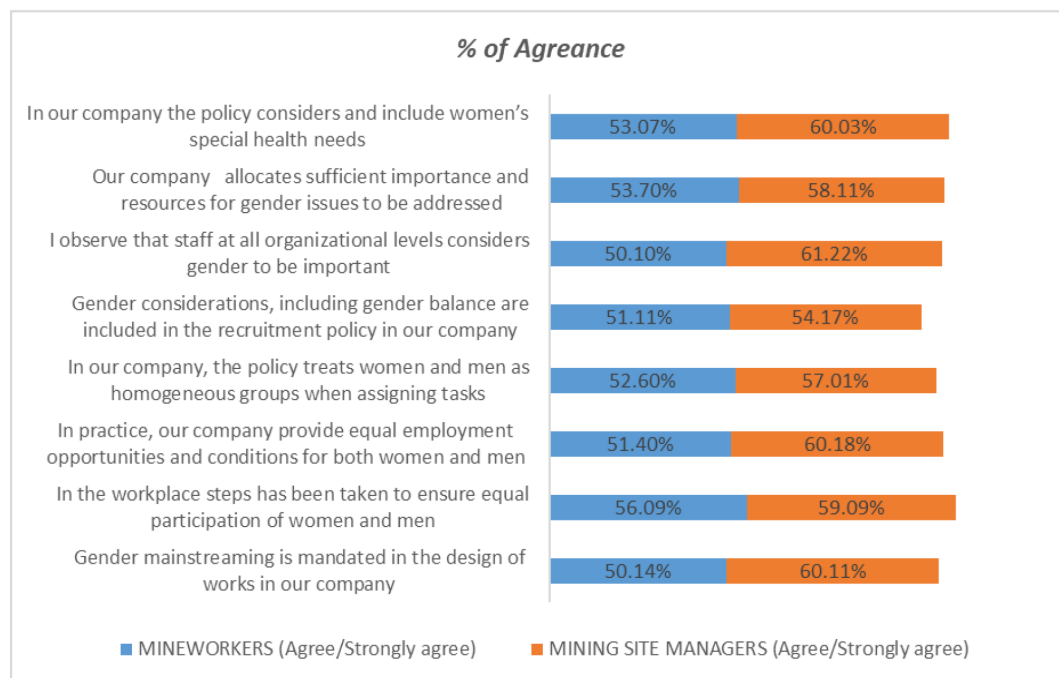
However, only 6,537 (i.e. 11.4%) were female in the Mining sector (NISR, Labor force Survey 2020); 9.8 % of mine workers and 15% of site managers are females (TI-RW, Baseline 2021).

Management efforts to promote gender mainstreaming in mining sector

According to UKAID report , women face challenges in joining teams of men due to multiple factors, which range from failing to obtain the requisite approval from team members due to the belief that women are incapable of carrying out the work, to limited access to capital needed to buy a spot on a team, to perceptions of family and community members equating work in the mines with sex work, among many others (UKaid, 2018). In the same vein, Gender dimensions of the Rwanda's mining sector are poorly understood. Women are estimated to

make up 16% of the workforce across the sector, with most engaged in small-scale mining. Although some women perform casual jobs in hauling ore or panning, these tend to be the lowest paid positions in operations (Fitsum Weldegiorgis, 2016). As a result, the purpose of this study is to determine how gender is mainstreamed in Rwanda's mining sector.

Figure 18: Perception of the respondents on Gender mainstreaming in mining sector



Although the percentage is not sufficient as expected, some of the activities of promoting gender equality in mining firms as evidenced by respondents include that gender mainstreaming is mandated in the design of works, and also confirm that in the workplace steps have been taken to ensure equal participation of women and men. Other indications include that, the company provides equal employment opportunities and conditions for both women and men and adds that the policy treats women and men as homogeneous groups when assigning tasks. With regard to the provision of employment in accordance with the principles of gender equality, respondents stated that gender balance is included in the recruitment policy of their companies. Respondents also indicated that staff at all organizational levels considers gender to be important and that their companies allocate sufficient importance and resources for gender issues to be addressed. Respondents also agreed that the policy consider and include women's special health needs in their institutions. As per the findings, there is a significant gender gap in the mining industry due to inadequacies in corporations' gender equality policies, where only 50 to 61% of respondents say that

aforementioned gender equality policies are taken into account in their workplaces. This gender gap is further supported by demographic statistics, which reveal that more than 90% of respondents (mineworkers) and more than 80% of respondents (mining site managers) are male. The fact that females made up less than 11% of the respondents in this study shows that there is a serious gender imbalance in the mining industry. However, this undoubtedly reflects the efforts needed to make gender equality more effective in the mining sector in Rwanda. In an effort to find out the main reasons why Females do not participate in mining in Rwanda, we approached various authorities in the mining sector in an interview and responded in the following statements.

“Females are often reluctant to participate in mining activities, especially as mining activities require a lot of energy. On another side, some companies lack the necessary infrastructure for women, such as sharing bathrooms with men, lack of space for changing clothing, and so on. Thus, discouraging female who want to work in mines”. **Mining site manager in one of the selected districts**

“Our company employs just about 50 females out of a total of more than 200, which is still a small number. We attempt to find infrastructure for women, but we also encounter problems due to the small number of females active in mining. Many companies refuse to invest in women's infrastructure when there are no female employees involved in mining”. **Mining company owner interviewed in one of the selected districts**

Women seeking work in the mining industry faces various challenges, especially when they are pregnant, they automatically lose their jobs. **Official from Miners' Trade Union interviewed**

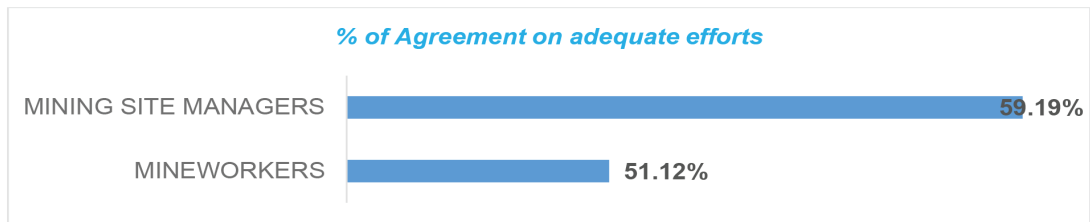
Section 5: The risk copying mechanisms in place to deal with socio-economic and environmental issues related to mining activities

Minerals and metals are essential materials for the functioning of modern societies and economies. Mining provides great economic opportunities for rich countries. However, the process of mining creates challenges and risks for the well-being of people and the environment. A key challenge for these countries is to manage mining in a way that contributes to and does not jeopardize sustainable development. The management of mining at all stages, from exploration to mine closure requires serious consideration of social and environmental impacts. The legal and contractual frameworks that govern mining are often made with little consideration of environmental sustainability and the wellbeing of affected communities. The rights of local communities and indigenous people to have a say in decisions about mining projects are often not realized. Most countries have adopted rules on environmental and social impact assessment and mine closure, but the implementation of these rules is lagging behind (UN environment, 2018). Therefore, this study aims to identify the risk coping mechanisms used by mining companies in Rwanda in order to protect the environment from the dangers of mining.

Efforts to mitigate the negative impact of mining operations on the environment

Mine exploration, construction, operation, and maintenance may result in land-use change, and may have associated negative impacts on environments, including deforestation, erosion, contamination and alteration of soil profiles, contamination of local streams and wetlands, and an increase in noise level, dust (ILO, 2001). Some of the negative impacts of mining are loss of vegetation cover, mass destruction of water bodies, loss of biodiversity, land-use changes and food insecurity, increased social vices and conflicts, high cost of living, and air pollution (Mineral house Australia, 2018). Therefore, the purpose of this research is to determine if mining companies are making sufficient steps to mitigate the harmful consequences of their operations on the environment.

Figure 19: Respondents' views on the efforts of mining companies to curtail adverse environmental effects caused by mining operations

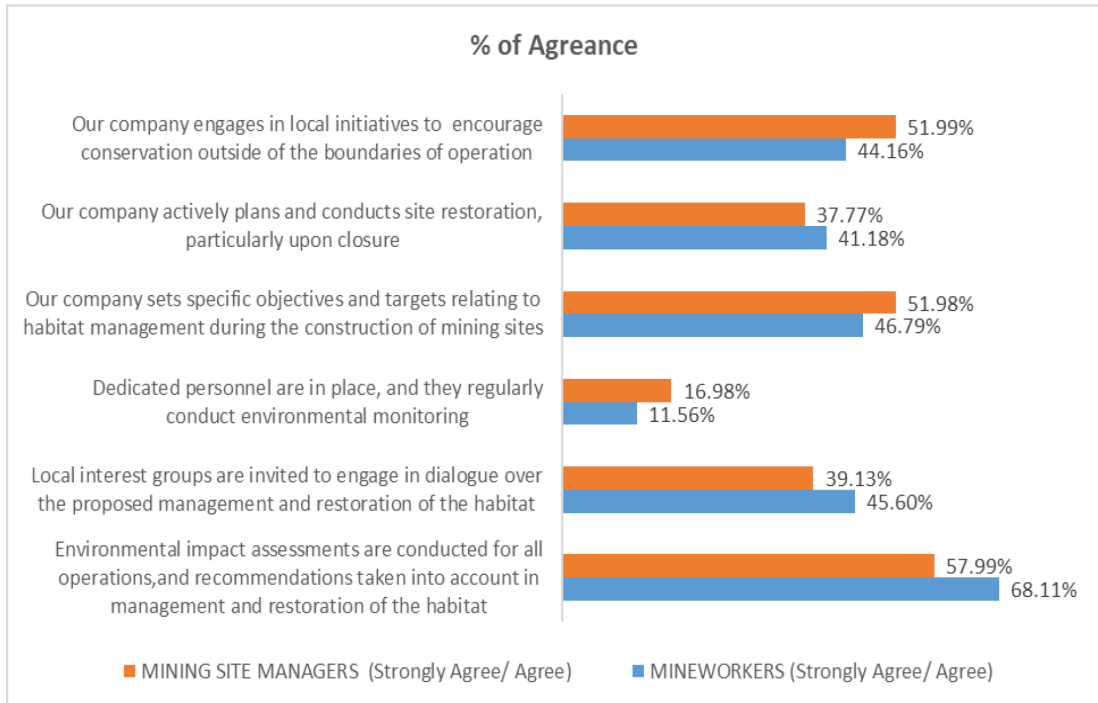


Despite being the backbone of many economies in developing countries, mining operations, no matter the scale, are disruptive to the environment. Thus, the efforts of dealing with the effects of environmental deterioration during mining is less apparent in Rwanda, as evidenced by the respondents. As seen in the graph above, less than 60% of respondents acknowledge that their institutions are making significant efforts to mitigate the environmental effects of mining operations. Despite the fact that some progress appears to have been made, some statistics (more than 40% of respondents) show that efforts to minimize negative environmental impacts are insufficient, and that actions are rarely taken. As a result of this concern, the UNDP urges mining companies and governments to pay greater attention to environmental protection during mining extraction in order to protect the lives of miners and people around the world (UNDP, 2018a). Hence, authorities need to step up their efforts to raise awareness among mining corporations about the importance of continuing to safeguard the environment and, when necessary, finding solutions to problems caused by environmental deterioration.

Management of the health of the habitats disrupted by mining operations

Mining activities, including prospecting, exploration, construction, operation, maintenance, expansion, abandonment, decommissioning and repurposing of a mine can impact social and environmental systems in a range of positive and negative, and direct and indirect ways. Native ecosystems and aboriginal human communities are typically affected by multiple stressors, including climate change and pollution, for example (Haddaway et al., 2019). However, mitigation measures are implemented to avoid, eliminate, reduce, control or compensate for negative impacts and ameliorate impacted systems. In this context, this study seeks to explore if there are any methods that mining companies may employ to manage the health of habitats that have been damaged by mining operations.

Figure 20: Perception of respondents on the management of health of habitats disrupted by mining operations



As the graphs show, respondents describe some of the ways their firms use to manage ecosystems harmed by mining. According to the findings, some managerial practices have been introduced to improve the health of the habitats disrupted by mining operations, although they are not enough. Such as companies engaging in local initiatives to encourage conservation outside the boundaries of operation. Respondents also added that, companies set specific objectives and targets relating to habitat management during the construction of mining sites. In the same view, respondents added that Environmental impact assessments

are conducted for all operations, and recommendations taken into account in the management and restoration of the habitat. While it is critical to safeguard the health of habitats affected by mining operations, the number of respondents who testify that the above-mentioned managerial practices are successfully implemented in their organizations is less than 52% of the total respondents.

Mine exploration, construction, operation, and maintenance may result in land-use change, and may have associated negative impacts on environments, including deforestation, erosion, contamination and alteration of soil profiles, contamination of local streams and wet-lands, and an increase in noise level, dust and emissions (Haddaway et al., 2019). The mining sector can bring significant economic benefits to a country by generating fiscal revenues and export earnings, relieving constraints to investment, spurring economic growth and creating jobs, as well as contributing to physical infrastructure building (WORLD BANK GROUP, 2017). Despite the fact that mining poses significant problems and risks, particularly in terms of environmental sustainability and social development, Rwanda's mining sector currently lacks the capacity to actively monitor and maintain the health of habitats disrupted by mining operations as evidenced in the findings. Below are the thoughts of some miners interviewed in this study;

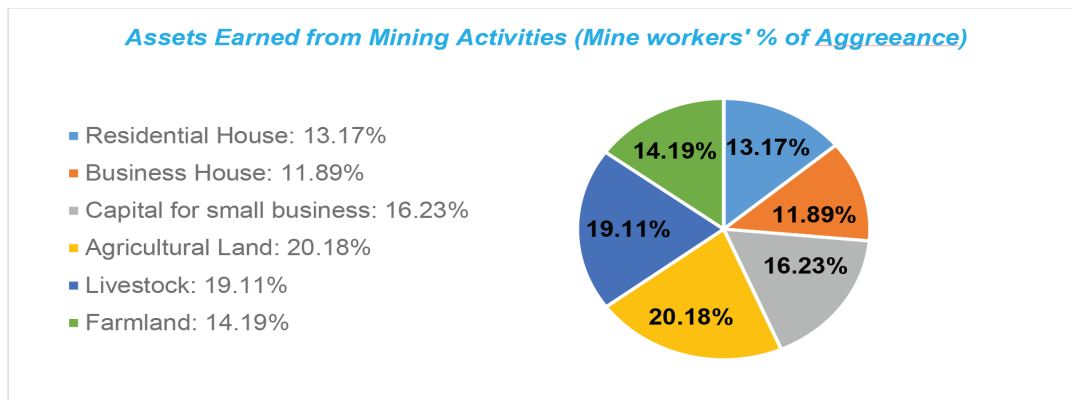
Restoration of damaged environment is quite expensive and requires professional personnel, therefore it remains a struggle for us, especially since many businesses operate on a limited budget. However, with limited means, we strive to restore the ecosystem where it has been harmed, despite the challenges of some miners digging illegally and causing major environmental damage". **Mining company owner in one of the selected districts.**

Mineral field officers at the district level tend to visit us on a regular basis but they also do not have sufficient mining expertise and experience in environmental conservation. Even the leaders in RMB tend to advise us, except that the major issue we have is the limitation of financial capacity, for which they have no solution, especially given the fact that the mining industry's capacity is still developing in relation with the national economy". **Mining site manager in one of the selected districts.**

Section 6: Socio-economic impact of mining on local communities and workers

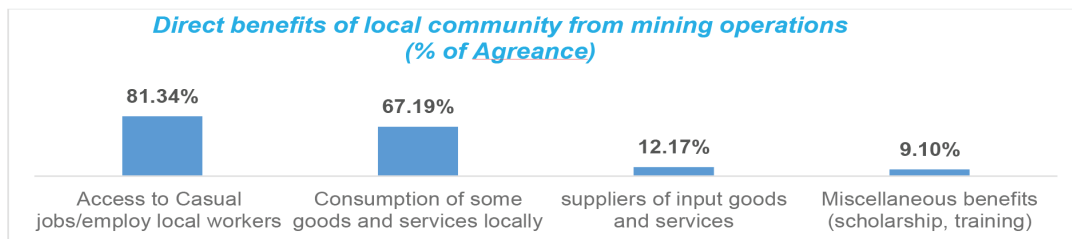
Mining sector has long promoted the view that it is in the industry's best interests to invest in corporate social responsibility initiatives and to maintain strong relationships with host communities. Local communities primarily seek to limit the disruption that mineral development will cause to their economic, social, and cultural context, and want access to the new benefits created by mining. These benefits range from new employment opportunities generated by the mine to a higher quality of infrastructure electricity, water, sanitation, health, housing, and education provided to communities. The primary metric for this group tends to be quality of life, broadly measured by income and service access or quality (DELOITTE, 2013). Within this framework, the current study sought to assess the socio-economic impact of mining on community and workers 's development

Figure 21: Assets earned from mining activities



Mining can impact local communities both positively and negatively. While positive impacts such as employment and community development projects are important, they do not off-set the potential negatives. As revealed in various studies, mining has been blamed globally for harmful and impoverishing effects. Most countries are rich sources of gemstone, yet there is very little development, since miners, and those around mining sites, still live in abject poverty (Mwakesi et al., 2020). In Rwanda as well, findings suggest insufficient benefits for the development of miners. This is supported by an insufficient percentage of respondents (less than 21%) who cited commercial and residential houses, small business capital, farmland, agricultural land, and livestock as assets derived through mining activities.

Figure 22: Mineworkers' thoughts on the community's benefits from mining businesses

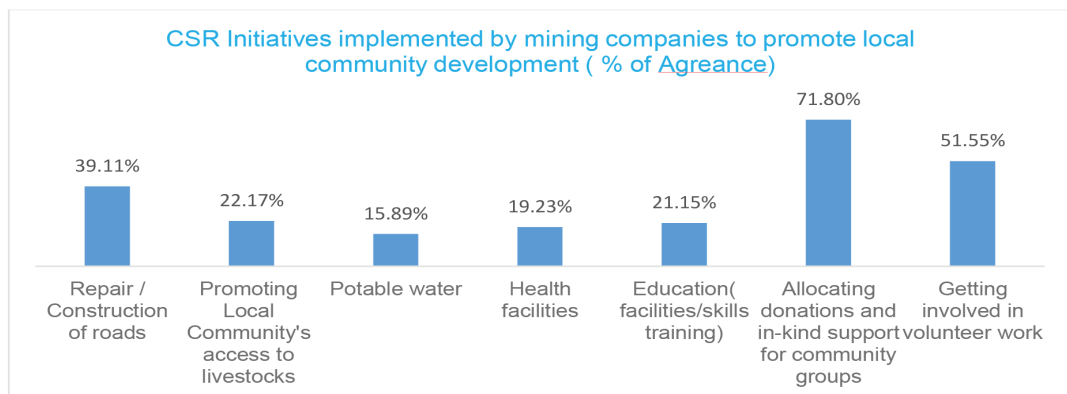


According to the study's findings, more than 80% of respondents felt that having access to casual jobs benefits those who live near mines. Purchasing goods and services in local marketplaces, which helps local people obtain access to money, is another benefit mentioned by respondents (67.19%). As per the findings, it is clear that the socio-economic impact of mining activities on the local community is not very substantial.

Promotion of local development initiatives

As reported in various studies, Local communities that live near mine sites can gain economic benefits from mining. They have legitimate expectations that mining companies should not only mitigate the negative environmental and social impacts of their activities, but should also take actions to promote local development. Increasingly, mining companies accept these expectations and seek to address them as part of their Corporate Social Responsibility (CSR) initiatives. They do so by implementing or funding local development initiatives, usually focused on health, education, infrastructure and business development. In the past two decades, community development programmes have become widespread in the mining industry (UNDP, 2018b). As a result, researchers seek to determine if mining corporations are involved in local development activities. Development initiatives identified in the study include, livestock, medical facilities, school buildings, clean water, road rehabilitation, donations (Philanthropy) and engagement in volunteer work.

Figure 23: Mining site manager's views on CSR initiatives



As per the findings, many respondents (more than 70% of the total respondents) stated that donations (philanthropy) is at the forefront of mining firms' community development efforts. Engagement in volunteer work is another institutions' top goals for community development, with more than 60% of the total respondents agreed. Other development initiative mentioned include road construction and repair, despite the insufficient percentage of respondents (less than 40%). The fact that mining companies are involved in road construction, especially where they operate, it can be linked to the fact that most of them operate in rural areas where the roads are poor. Thus allowing these institutions to prioritize road construction in order to improve the roads leading to the mines.

According to UN environment, (2018), environmental and social implications, human rights, local development, and monetary contributions to countries are some of the indicators of the

mining industry's performance. It is therefore imperative that mining companies strengthen their corporate social responsibilities, in order to continue to develop the local community and the country as a whole. In Rwanda, therefore, the findings show that mining companies have not yet reached the stage of prioritizing CSR initiatives, especially in the development of infrastructure where they operate. Mining is the extraction of minerals and other geological materials of economic value from deposits on the Earth. As asserted by UNDP, managed well, mining creates jobs for lower and higher skilled workers and can “spur innovation and bring investment and infrastructure at a game-changing scale over long time horizons (UNDP, 2018a). In Rwanda, however, statistics show that there is still weakness in the development of the population living near the mines. So this shows the efforts needed in the mining sector in Rwanda to make its productivity more beneficial to the people and the country as a whole. In order to identify the obstacles that prevent mining companies from investing adequately in CSR initiatives, we asked the relevant authorities in the interview and they responded to us in the following statements:

“I don't think mining companies have the capacity to support the infrastructure where they operate, sometimes they repair roads to their mines. There are also cases where repairing these roads has failed, such as the road leading to our mines in Mageragere that is severely damaged. I think that as the capacity grows, mining companies will play a significant role in the development initiatives where they operate”. **Mining company owner**

“We frequently advise businesses to set aside funds for corporate social responsibility. In the new law it is compulsory. The government has decided to invest 10% of the earning from mining activities towards community development programs in the mines' environs. It will be processed through LODA and it started last year”. **Official from RMB**

5. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

The objective of this research is to empower citizens by raising awareness of the social and environmental issues associated with mining activities, as well as expanding the roles that civil society organizations and the private sector can play in promoting integrity, transparency, and accountability in the mining sector. Although the findings suggest that progress has been made in developing mining operations while observing environmental protection, numbers show that there are still gaps in transparency and compliance, especially when it comes to mineworker care.

According to the findings, mining companies still have substantial flaws when it comes to providing employees with employment contracts. It has also been revealed that an employment contract is terminated illegally. Recruitment and remuneration conditions have

also been shown to be non-transparent. The lack of paid leave was also cited as another hindrance to miners' basic rights. Although in terms of licensing, application approval and inspection, there are no significant gaps, here are a few instances of corruption based on friends and family ties.

The studies also demonstrate that compliance with safety measures in the mining industry is ineffective, where it has been found that mineworkers are not provided with adequate protective equipment yet they are at high risk of contracting various diseases and accidents. Despite the fact that miners are more prone to suffer from occupational illnesses, it has been revealed that they lack adequate health care. It has been also found that compliance with environmental protection regulations is not being carried out properly. On the other hand, it has been found that mining companies do not put proper effort into Risk coping mechanisms in place to deal with socioeconomic and environmental issues related to mining activities. In this study it has also been found that gender equality is not respected in the mining sector. When it comes to the socioeconomic impact of mining on mineworkers and the surrounding community, the data show that, while few miners have purchased assets with mining earnings, mining companies do not invest enough in local development projects.

5.2. RECOMMENDATIONS

The aim of this study is to empower citizens through raising awareness on the social and environmental problems associated with mining activities, as well as increasing the roles that CSOs and Private Sector can play in promoting integrity, transparency and accountability in mining sector. After analyzing the results of this good study, we would like to propose or recommend the options available to solve a problem or fill a need and indicate the specific measures or directions that can be taken.

5.2.1. General recommendations

Despite the fact that mining is hazardous to the environment and has a negative impact on the health of workers and the general public, no one can deny its contribution to national economy. Hence, it is critical that mine be extracted while adhering to environmental protection guidelines. Compliance must be adhered in order to make mining business more beneficial to the people and the country in general. According to statistics, mining companies in Rwanda use methods that contribute to environmental damage, thus it is critical to enhance risk copying measures and emphasize environmental preservation. When mining operations devastate the environment, extra efforts are needed to mitigate the harmful consequences of mining on the ecosystem, as modest numbers suggest that the normal interventions are still ineffective

5.2.2. Specific recommendations

A set of specific recommendations have been formulated based on the opinions of the respondents against all the challenges found in this study.

Identified issue	Solution required	Concerned institution
In this study, it was found that many mineworkers do not have employment contracts	RMB, MIFOTRA, RMA ensure that all miners are given employment contracts in accordance with the Rwandan Labor Law and mining Law. This will address all malpractices related to contract management	RMB, MIFOTRA, RMA
There are various diseases that often affect mineworkers, and yet there is still a gap in equipping mineworkers with adequate protective equipment	It is vital that authorities monitor the provision of protective equipment to mineworkers on a regular basis in order to ensure that their lives are better protected	RMB, MIFOTRA, REWU
Inadequate medical care provisions to miners	Mining companies establish clinics that provide basic medical care to mineworkers who are sick at work, especially since they're the ones most vulnerable to accidents or diseases	RMB, Mining companies, REWU
Compliance with environmental protection is not given due value.	Relevant authorities to take steps to protect the environment, such as employing professionals with expertise in environmental protection and mining operations, increasing inspections, and enforcing sanctions against companies that violate environmental regulations	RMB, Mining companies, RDB, MINALOC
The findings highlight some of the main reasons why females are less likely to seek employment in the mining sector, such as the fact that mining companies do not set up special facilities for females, neglecting the needs of women and so on.	There is a need to put more effort into increasing the number of females working in mining, such as setting up infrastructure for women, providing paid leave for women, especially breastfeeding women, providing special care for pregnant women because they are vulnerable.	RMB, MoE, REMA, MINALOC
Inadequate risk coping mechanisms to deal with socioeconomic and environment issues related to mining activities	Relevant authorities should ensure that mining companies mitigate the negative impact of mine operations on the environment such as re-forestation, resettlement of affected communities, compensation to affected communities, reviewing methods of operations , etc.	RMB, MoE, REMA, MINALOC

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