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THE ROLE OF MINING COMPANIES IN ACHIEVING THE UNITED NATIONS SOCIAL DEVELOPMENT GOALS IN MADAGASCAR BY 2030.

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A RESEARCH ARTICLE SUBMITTED TO THE FACULTY OF COMMERCE, LAW AND MANAGEMENT, UNIVERSITY OF THE WITWATERSRAND, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION.

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February 2023.

DECLARATION

I, Ndasi Moses Babila, declare that this research article is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the Graduate School of Business Administration, University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.



Ndasi Moses Babila

Signed at …….Johannesburg……

On the ……28……. day of ……February…… 2023…...

DEDICATION

I am dedicating this piece of work to myself, for being so strong and resilient, and going through this intriguing and challenging adventure during the most difficult times of my life.

ACKNOWLEDGEMENTS

I am indebted to everyone who, directly or indirectly, contributed to the success of this project.

I want to thank Prof. Thabang Mokoaleli-Mokoteli, who in the capacity of my Supervisor, reviewed and commented on the entire manuscript.

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I want to thank Mr Rene Robinson for the field guidance and interpretation of the interview questions to respondents during the duration of data collection. I also want to express my sincere gratitude to the people of Ranobe and Benenitra, particularly to all the respondents for their hospitality and the time they took to participate in the interviews. Particular thanks go to the Mayor of Ankilimalinike (Ranobe) in the name of Mr. Tivilahi Basoloniaina and the Chief of Ranobe in the name of Mr Etokoane, for their guidance, conversations and advise during the interviews.

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Sincere thanks also go to many of my relatives and friends who showed me love and gave me courage in this venture which, though may look simple, was both intriguing and

challenging. These include, in remembrance of my beloved Mum, Mama Prudencia Mbongeh, my step-dad Mr Kum Fidelis; my kids, Ndasi William, Ndasi Miguel, Ndasi Alicia Boghema and Ndasi Fidel-Jason Boni-Nyikob; my brothers and sisters, Ndasi Eugene, Ndasi Mary, Kum Bertha, Kum Carine and Kum Ngule; My nephew and nieces, Ndasi Fortune, Ndasi Clivette, Ndasi Precious and Ndasi Prudencia, not forgetting my sister-in-law, Ndasi Constance; my friends, particularly Prof. Federick Tebit and his family for their continuous support, motivation and encouragements, Miss Fotchin Vanessa, Miss Otima Esther Carine, Miss Mamotsotuwa Machongoane (Titi), Mr Kenneth and George for encouragements; all my cousins and extended relatives, especially Mr Fonji Jenny Nuvaga, Fonji Rene, my grand mum Mama Elizabeth Lema Fonji; as well as all those whose names I have not mentioned.

If this project has any merits, they are due to the wise counsel and incredible contributions of the above-mentioned people. Its shortcomings whether of style or arrangements, errors of fact or interpretation are all mine.

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ABSTRACT

The United Nations Sustainable Development Goals (UN SDGs) constitute the pillars of policies formulated by the UN member states in 2015 to combat poverty and other forms of deprivation, in order to achieve peace and prosperity for all people and the planet by the year 2030 (the so-called UN Agenda 2030).

This research is an exploratory study that undertakes a synthesis of the implementation of the UN SDG policies and the economic contributions made by mining companies to local communities in Madagascar, through their commitment to Corporate Social Responsibility (CSR), in order to achieve the UN Agenda 2030. Four of the 17 UN SGDs were selected to assess Madagascar's level of achievement of the UN SGDs. The UN SGDs selected include one, end poverty in all its forms everywhere; two ensure healthy lives and promote well-being for all at all ages; three Quality education and four, Industry innovation and infrastructure.

The Purposive Sampling technique was used to select the Benenitra and Ranobe districts of the Atsimo Andrefana Region as areas of study due to the advantage of prior knowledge of the areas and accessibility. These areas are reflective of artisanal, small and industrial scale mining operations in Madagascar. 22 participants were interviewed to get their perception on Madagascar's level of achievement of the UN SGDs, and the contribution of mining companies towards this and their livelihood.

while mining companies are somewhat engaged, and to some extent, committed in CSR, and showing interest in developing the local communities where they operate, the government of Madagascar is lagging behind with the implementation of appropriate social protection systems to achieve the UN SDGs by 2030.

It is envisaged that this research would contribute to the scientific and societal discourse on mining and CSR, particular with regards to the contribution of mining companies to the economy of developing and emerging countries towards achieving the UN Agenda 2030.

Keywords: Sustainable Development Goals, Corporate Social Responsibility, Resource curse, mining companies, local communities, natural resources.

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CHAPTER 1 INTRODUCTION.

The United Nations (UN) Agenda 2030 for Sustainable Development, which was adopted by all United Nations Member States in 2015, provides a unifying framework for peace and prosperity for all people and the planet, both now and in the future (World Bank, 2015). Over the decades, the UN and its member states formulated 17 Sustainable Development Goals (SDGs), which are at the centre of the UN Agenda 2030, and represent and urgent call to action for all nations (developed and developing) in a global partnership. They understand that combating poverty and other forms of deprivation requires policies that enhance health and education, lessen inequality, promote economic growth, combat climate change, and fight to protect our oceans and forests. The 17 UN SDGs are listed in the website of the UN (https://sdgs.un.org/goals, accessed 31/01/2023).

When attempting to address the resource needs of an expanding population, it can be simple to ignore the potential contribution that mining can make to a nation's long-term social and economic growth. Mining has the potential to create jobs, generate revenue, increase workforce skill levels, and spur investments in infrastructure, health, and education (Walser, 2002). Continuous improvement in all these indicators constitute progress in achieving the UN SDGs. It is the responsibility of the governments of nations to ensure that these positive benefits from the mining industry reach the communities and the role of mining companies in achieving this is critical.

This research assesses the role of mining companies in achieving the UN SDGs in Madagascar by the year 2030. It is an exploratory study that seeks to undertake a synthesis of the implementation of the UN SDG policies and the economic contributions made by mining companies to local communities in Madagascar, through their commitment to Corporate Social Responsibility (CSR), in order to achieve the UN Agenda 2030. The

study investigates whether the problem lies with the lack of policies or the lack of implementation, is Madagascar enforcing policies to achieve the UN SDGs, and are mining companies in Madagascar committed to helping the country to achieve the UN SDGs?

Four of the 17 UN SGDs were selected to assess Madagascar's level of achievement of the UN SGDs. The UN SGDs selected include one, end poverty in all its forms everywhere; two ensure healthy lives and promote well-being for all at all ages; three Quality education and four, Industry innovation and infrastructure.

Madagascar has been chosen as the preferred country due to its long history of artisanal mining, abundant mineral resources but prevailing poverty. A face-to-face survey was carried out on a randomly selected sample of the people in communities where mining operations are taking place. The sample population includes government officials, mine workers, local residents including community leaders, and other stakeholders. A quantitative analysis of their perceptions was undertaken to get a clear understanding of the findings.

1.1 BACKGROUND OF THE STUDY

Mining has a long history, which dates back to the stone age when surface stone was used to make simple hand tools (McCarthy and Rubidge, 2005). Following the use of stone, the discovery and utilisation of precious metals such as gold, tin, lead, copper and iron have played a fundamental role in the transformation of human life (Raymon, 1984). Mining has therefore played, and continues to play an important role in civilisation and the economic development of many countries. According to (Walser, 2002), developing and emerging countries are fast becoming the major players in terms

of availability, exploitation and production of key commodities such as bauxite (40%), copper (70%), iron ore and other precious metals.

A research carried out on behalf of the World Bank Mining Department by McMahon and Moreira (2014) in Peru, Chile, Bolivia, Papua New Guinea and Mali, shows that there are substantial economic and social benefits of mining to the community in which the mines operate. The positive impacts include the generation of income through employment opportunities, as well as the growth of local small and micro enterprise activities (Walser, 2002; Mwakesi, et al., 2020). Despite all these benefits, mining remains controversial and has always been seen as a dirty industry due to the effects on the surface of the earth of the extraction of metals. Many argue that financial flows are not the only measure of a true and sustainable development, and that mining is associated with several economic and social problems. Walser (2002) suggests that "the contribution of mining to sustainable development needs to be considered in terms of economic and technical viability, ecological sustainability and social equity". In order to achieve this, it is important that mining companies work together with the governments and the local communities where they operate to address the issues that arise from mining activities. The challenge for developing countries is to preserve the financial advantages of the mining industry, converting their endowment of mineral resources into riches and social benefits for the entire country, while reducing the negative effects on the environment and social unrest (World Bank, 2002).

Up until the 2000s, Madagascar has a long history of small-scale and artisanal mining for gold and precious and semi-precious stones such sapphire, topaz, ruby, aquamarine, emerald, and amethyst (World Bank, 2015). They are the Ambatovy nickel, cobalt, and sulfate of ammonia project in Toamasina, in the East of Madagascar, and the QIT

Madagascar Minerals (QMM) ilmenite, rutile, and zircon mine in Tolagnaro, in the South East of Madagascar (World Bank, 2015). Prior to 2000, only chromite was mined for industrial purposes.

The company COMINA, which was eventually nationalized and renamed Kraomita Malagasy or Kraoma SA, began producing chromite in Madagascar in 1968. Madagascar has long been the tenth-largest producer of chromium in the world thanks to this medium-sized mining enterprise (World Bank, 2015). During the 1990 ruby and sapphire rush, mining communities like Ilakaka and Sakaraha were established, making Madagascar one of the world's major producers of these colored gemstones (Cambell, 1988). Several areas of the nation, notably Benenitra and the nearby towns of the proposed Imaloto Coal-fired Plant and Mine, still rely on artisanal mining for their living.

With the rise in price of gold and gemstones since 2008, exports of these minerals have dramatically increased, reaching a peak in 2012. According to the United States Geological Society (USGS, 2014), more than 500,000 artisanal miners, including full-time and seasonal, take part in the extraction of gold and precious stones., making the artisanal mining sector one of the largest employers of Madagascar and providing work to more people than the textile and clothing industry.

Artisanal mining has been linked to major negative effects on safety, health, social harmony, tax income, the environment, as well as illicit trade and corruption, despite these enormous contributions to the livelihoods of local communities and Madagascar's economy (World Bank, 2015). The area studied is the Atsimo Andrefana Region, which is located in the south-western part of Madagascar (Figure 1). It is the largest Region, among the 22 Regions of Madagascar, covering an area of 66,813 km² and represents approximately 11% of the country's territory, with Toliara (Tulear) as the Regional

Capital. The mining sector is one of the region's flagship economic activities. Mining towns like Ilakaka and Sakaraha were developed during the 1990 rush for sapphire and ruby, which turned Madagascar into one of the world's largest producers of these coloured gemstones (Cambell, 1988). Artisanal mining of gold and these gemstones are still a livelihood activity in many parts of the region, including Benenitra and Ranobe. The region is also the one with the largest number of industrial scale mining activites.

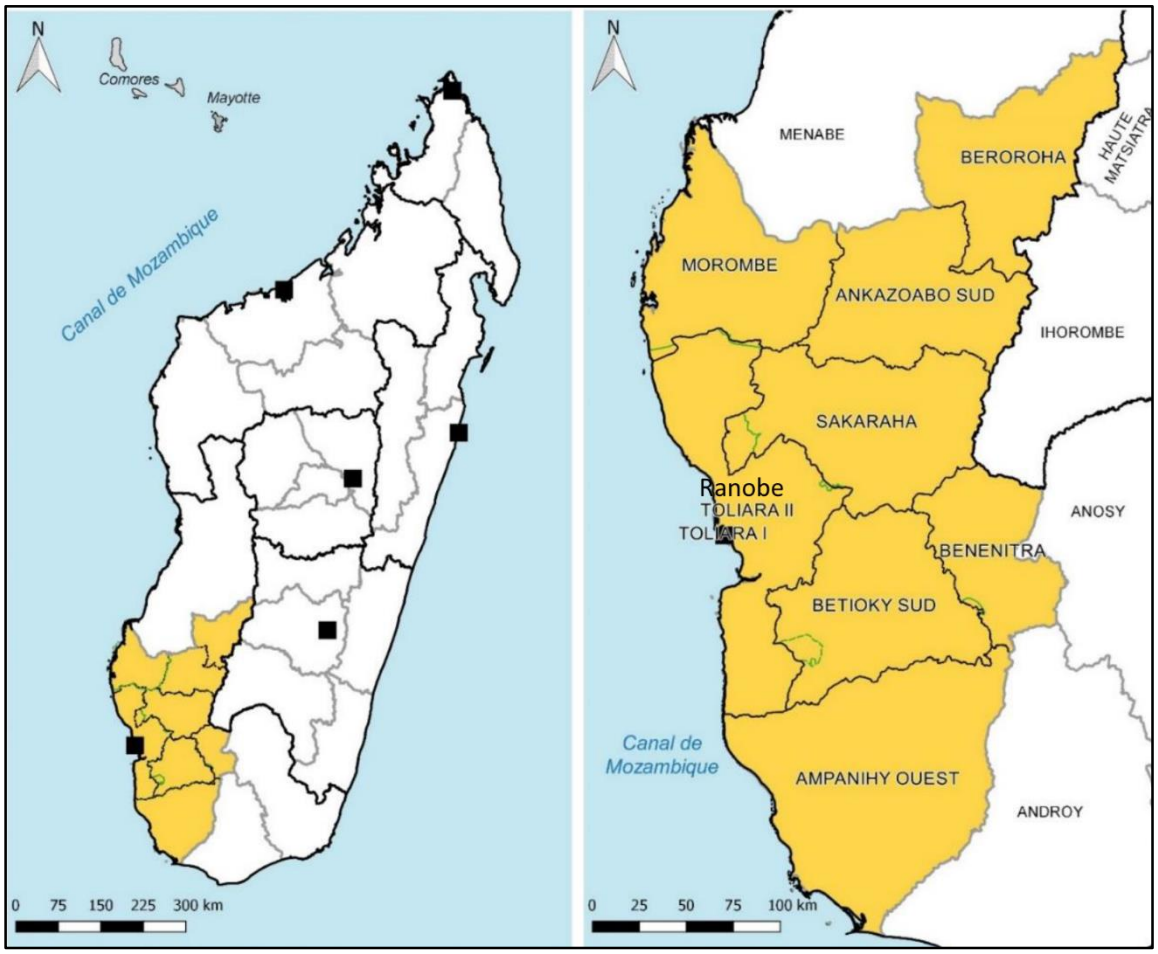


Fig. 1 Locality map of the study area.

According to the USGS (2014), the global economic crisis of 2008, coupled with Madagascar's political transition between 2009 and 2013 slowed down minerals exploration projects and "degraded the country's attractiveness as an investment destination". However, in the last decade, significant exploration activities have taken

place leading to the discovery of new deposits, some of which could be developed in the medium- to long-term. These include:

One, **Ilmenite extraction (Base Tulear) on the East Coast and around Toliara.** Mineral sands abound along Madagascar's coastline. World Titanium Resources Ltd. has investigated the southwest coast close to Toliara. At Ranobe, the deposit's estimated ilmenite content is +/- one billion tons at 4.4 percent (World Bank, 2015).

Two, **Coal extraction at the Sakoa Basin**. Several companies including Lemur Resources (IMaloto Coal-fired project and mine), MCM-SA Sakoa and PAM-SAKOA have explored coal deposits in the Sakoa Basin in the South West of madagascar. The region's coal reserves had been initially estimated to have between 1.1 and 1.2 billion tons of coal. Coal mines with annual production capacities of 5 to 10 million tons could be built in the Greater Sakoa Basin if initial estimates are verified by feasibility studies (USGS, 2014).

Three, **Iron ore extraction at Soalala.** The USGS (2014) initially estimated that this potential iron ore deposit has a reserve of more than 800 million tons that can be exploited. The third-largest steelmaker in China, Wuhan Iron and Steel CO (WISCO), began exploring this resource in 2011. Although the project has grandiose goals, there is not much information currently available about it, and it has not gone past the investigation stage.

1.1.1 PRODUCTION FORECASTS FOR MINING SCENARIOS IN MADAGASCAR.

In order to model the future contribution of mining in Madagascar, it is important to understand the production forecasts of the existing mining companies and the potential

impact they would have on the economic development of the country. The following three scenarios were created by the World Bank in 2015 to anticipate the potential effects of the industry from 2014 to 2035 for Madagascar's large-scale mines:

Scenario 1 considers that only the large-scale projects (QMM, Ambatovy and Kraoma) that are already in production may continue to operate in the country.

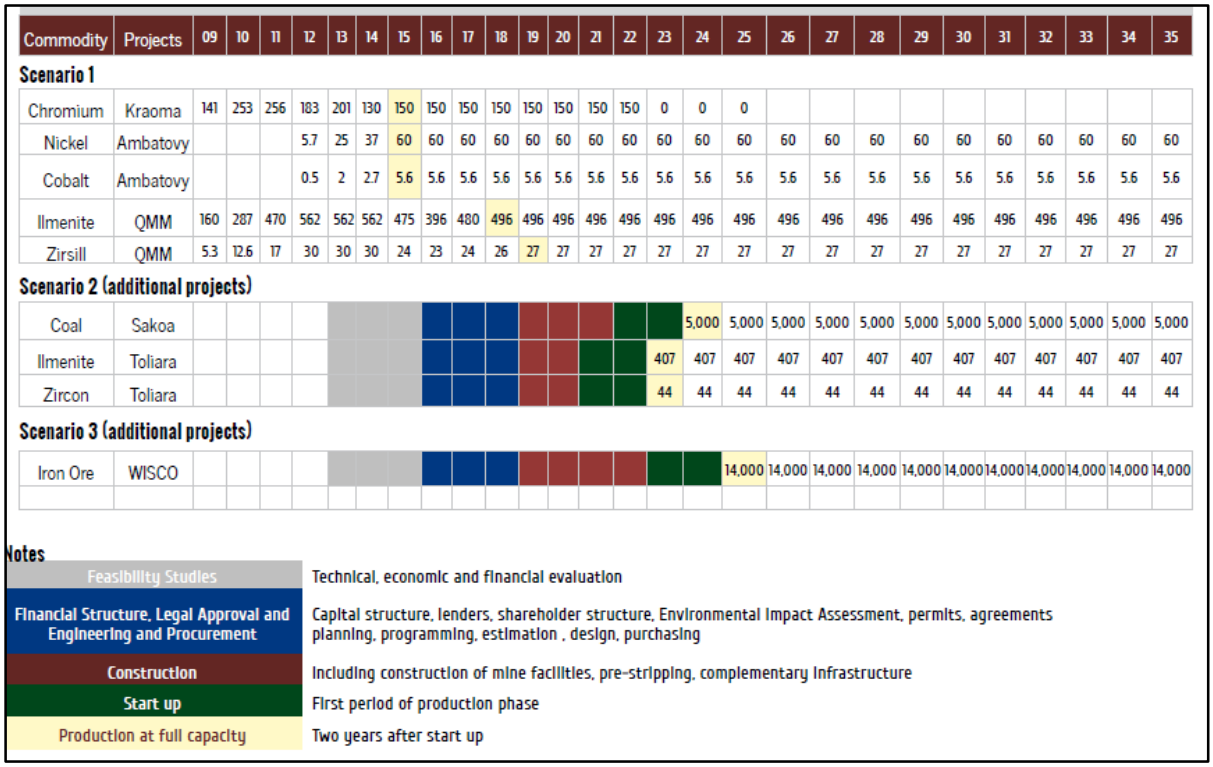
Scenario 2 considers scenario 1 plus the development of the ilmenite project (Base Tulear) to World Titanium Resources and the Sakoa coal.

Scenario 3 considers scenarios 1 and 2 plus the development of the iron ore project at Soalala by WISCO.

Estimates of how long it would take for the projects to reach their full operational potential were taken into account in the scenario analysis.

According to Table 1, the important phases are feasibility studies, financial planning, legal approval and permits, engineering and procurement, construction, and real start-up. The forecasts in Table 1 show that under scenario 2, the ilmenite and zircon projects of Toliara (Base Toliara) may complete constructions by 2020 and reach full capacity in 2023. Under scenario 3, it is expected that WISCO will complete construction in 2024 and full production will start in 2024.

Table 1 Mining production forecast scenarios for the period 2014 to 2035 in Madagascar. Source: World Bank, (2015).



Commodity	Projects	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Scenario 1																												
Chromium	Kraoma	141	253	256	183	201	130	150	150	150	150	150	150	150	150	0	0	0										
Nickel	Ambatovy				5.7	25	37	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Cobalt	Ambatovy				0.5	2	2.7	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Ilmenite	QMM	160	287	470	562	562	562	475	396	480	496	496	496	496	496	496	496	496	496	496	496	496	496	496	496	496	496	496
Zirsill	QMM	5.3	12.6	17	30	30	30	24	23	24	26	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
Scenario 2 (additional projects)																												
Coal	Sakoa																5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Ilmenite	Toliara															407	407	407	407	407	407	407	407	407	407	407	407	407
Zircon	Toliara															44	44	44	44	44	44	44	44	44	44	44	44	44
Scenario 3 (additional projects)																												
Iron Ore	WISCO																14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000

Notes

Feasibility Studies	Technical, economic and financial evaluation
Financial Structure, Legal Approval and Engineering and Procurement	Capital structure, lenders, shareholder structure, Environmental Impact Assessment, permits, agreements planning, programming, estimation , design, purchasing
Construction	Including construction of mine facilities, pre-stripping, complementary infrastructure
Start up	First period of production phase
Production at full capacity	Two years after start up

1.1.2 POTENTIAL CONTRIBUTION OF MINING TO THE ECONOMY OF MADAGASCAR.

It is anticipated that the large scale mining projects in Madagascar would have a growing macroeconomic impact on the country's economy. Monetary flows in terms of fiscal income (tax and royalty payments), salaries and domestic expenditures are expected to increase, and the contribution of mining to the country's GDP and exports is also expected to rise. In 2012, mining only contributed to 1% of the country's GDP, but the World Bank, (2015) suggests that by 2025 mining would contribute 4% of the country's GDP under scenario 1 and up to 14% under scenario 3. These forecasts are demonstrated in Table 2.

Table 2 Forecasts of total monetary flows of large-scale mining in Madagascar. Source: World Bank (2015)

	2012		2015		2025				2035			
	Scenario	%	Scenar	%	Scenarios			%	Scenarios			%
	S1		S1		S1	S2	S3		S1	S2	S3	
Salaries	24	19	99	22%	96	12	198	16.4	96	12	198	13%
Domestic expenditure (1)	84	67 %	318	69%	310	469	924	76.4 %	310	489	924	62%
Fiscal contribution (2)	18	14 %	43	9%	40	52	88	7.2%	38	89	378	25%
Total monetary flows	126	100 %	460	100 %	446	649	1,210	100%	444	686	1,500	100 %

The demand for goods and services from the mining companies are also expected to increase when the projects reach full capacity. Local businesses have a chance to expand due to the rising demand for goods and services.

The mining industry could establish beneficial ties with a variety of economic sectors and suppliers through cooperating with the local communities, governing bodies, and other operational and technical capacities, thus fostering economic development.

Despite the fact that mining is not a labor-intensive industry in comparison to other industries, World Bank (2015) research reveals that large-scale mining operations now under construction in Madagascar (Scenario 1), when fully operational, would employ more than 4,200 people, as shown in Table 3. Unless production decreases, it is expected that employment in these operations would remain steady. In scenario 2, it is expected that direct employment would increase to 5,000 by 2025, largely because of the potential for the Sakoa (Imaloto) coal and Base Toliara projects to start operating at full capacity.

By 2025, scenario 3's direct employment is projected to more than quadruple, reaching 10,000 jobs. During the building period, when a greater number of people would be working, this number may rise considerably.

Table 3 Potential direct employment forecast from mining industry in Madagascar. Source: World Bank, 2015

	2015		2023			2024			2025-2035			
	Scenario	Total	Scenarios		Total	Scenarios		Total	Scenarios			Total
	S1		S1	S2 less S1		S1	S2 less S1		S1	S2 less S1	S3 less S2	
Direct employment	4,200	4,200	3,700	200	3,900	3,700	1,250	4,950	3,700	1,250	6,000	10,950
Percent of total	100%	100%	95%	5%	100%	75%	25%	100%	34%	11%	55%	100%

1.1.3 MINING POLICY ANALYSIS OF DEVELOPING COUNTRIES.

Over the last few decades, the mining industry has grown in importance in developing and emerging countries by generating wealth, revenues, jobs as well as improvements in the health and education sectors (Auty, 1998; ICMM, 2012; (ICMM), 2016). At the same time, in some regions, mining has also been the cause of bloody armed conflicts, environmental degradation (deforestation, contaminated waters and polluted air) and many adverse socio-cultural issues (Frederiksen, 2019; Bebbington, 2011;).

Both in terms of power and information, the negotiations between the countries that host the minerals and the mining companies (most often international) seeking to exploit the minerals are far from symmetric (Morelli et al., 2013). The governments of the countries where the minerals may be located are frequently unstable and corrupt and usually just

interested in maintaining their survival in power (Scherer & Palazzo, 2011; Scherer & Palazzo, 2007). As such, the positive benefits of mining can be difficult to achieve without a strong legal and policy framework that promotes the economic and social development benefits of mining while upholding strong environmental and social standards. Without such a framework, mining operations run the risk of endangering workers, polluting the environment, causing non-inclusive growth, and encouraging corruption (Frederiksen, 2019).

The Mining Policy Framework (MPF) for mining and sustainable development is an intergovernmental forum on mining, minerals, and metals and sustainable development that works to advance good governance practices and sustainable development policies (Crawford, 2015). The MPF "comprises actions that the IGF member countries have picked as best practice for exercising good governance of the mining sector and supporting the generation and equitable distribution of benefits in a way that would contribute to sustainable development" (Crawford, 2015). Six major pillars, including the legal and policy framework, social benefit optimization, financial benefit optimization, artisanal and small-scale mining (ASM), environmental management, mine closure and the post-mining transition (Crawford, 2015; Groß & Stauffacher, 2014).

With assistance from Canada's Department of Foreign Affairs, Trade and Development (DFATD), the IISD worked with Madagascar, the Dominican Republic and Uganda, three IGF member states, in 2013 to operationalize MPF-compliant practices. This required assessing each nation's national laws and regulations and their readiness to put the MPF into effect. The assessment, discussed below, determined the strengths and weaknesses of the three member states across the MPF's six key pillars using current laws, policies, and procedures (Crawford, 2015).

Legal and policy environment

Strengths: Improvements in the generation and access to geological data and information; regular modification of their mining codes and standards; communities becoming more involved and consulted during permit application stage; requirements for Environmental Impact Assessments (EIAs) before the granting of permits, and are becoming more standardized; and national constitutions include provisions for sustainable use of natural resources.

Weaknesses: Lack of coordination between government ministries on challenges of mining; lack of action to address the effects of mining on indigenous peoples, resettlement, community security and safety, and cultural heritage; reliance on donors for the generation of geological data; lack of requirements for ongoing community consultations throughout the life of the mine; and special contracts used in conjunction with existing mining legislation are thought to establish two separate, less transparent systems of accountability.

Financial benefit optimization

Strengths: Mining-related government income is comprised of a variety of taxes, royalties, and other income sources; improving national capacities for mining contract negotiations.

Weaknesses: More need to link the financial benefits of mining to national, regional local and development goals; need to formalize ASM activities to increase government revenues; limited mechanisms to deal with the volatility of commodity prices; persistent lack of transparency regarding the distribution of financial benefits; need to better address the fungible nature of mining profits and transfer pricing.

Socio-economic benefit optimization

Strengths: Social implications are taken into account in EIAs as part of the permit application process; laws governing occupational health and safety are in place.

W**eaknesses:** Mining businesses are not required to fund immediate and long-term programs for health and education; there is little oversight of or enforcement of occupational health and safety laws, and violations are not punished; businesses are not compelled to assist long-term economic growth or non-mine business development prospects.

Environmental management

Strengths: The permitting procedure includes standards for EIAs and community consultations; and there are generally good environmental laws in place for managing water, biodiversity, mine wastes and effluent, etc.

Weaknesses: Mine operators are not required to have emergency plans; and regulation does not address how to manage the trans-boundary effects of mining.

Post-mining transitions

Strengths: Although infrequently used in practice, financial assurances and bonds are technically required; the permit application must include closure plans developed in conjunction with community consultations.

Weaknesses: Companies are not compelled to adhere to internationally recognized standards or best practices; external experts are not required in the formulation of closure plans; there are no laws or policies governing orphaned or abandoned mines.

Artisanal and small-scale mining

Strengths: Small steps being taken to formalize ASM activities.

Weaknesses: ASM remains overwhelmingly informal, with several social and environmental issues that need to be addressed and implications for government revenues; unsafe working conditions and child labor are still pervasive; no attempts made to enhance savings and investments in the ASM sector; ASM miners have a very low level of environmental awareness.

While the three nations do have some common strengths, they are not the same. While one country is making excellent advances in a certain area of the mining policy development, the other is struggling with the same challenges. Nonetheless, it seems as though the three nations are making some headway in coordinating their mining laws and policies to promote sustainable development. For example, recent expenditures in geological surveys, mapping, and database administration have increased the amount of information being generated and made available about mineral reserves. However, because investments in geological data are made by outside donors, the longevity of financing may have an impact on both the production of this data and its availability. For instance, Madagascar's geological data became less accessible when the online portion of the database was shut down due to a lack of funding following the country's political turmoil and the subsequent withdrawal of support from international donors (Crawford, 2015).

Community consultations are necessary as part of the EIA process in all three countries, but only during the initial impact assessment in compliance with MPF standards for EIAs. They don't have to happen continuously for the duration of the mine's operation.

However, despite the fact that EIAs are necessary for the permitting process, the reports themselves are typically not available to the general public.

Given their magnitude for large projects, such reports are typically only available in person in the capital city, if at all, and this can impede transparency about environmental management (Crawford, 2015). Regular reporting to the government on the negative consequences mining has on the environment and society is another common requirement. The three countries' mining legislation mostly lacks measures to ensure community safety, safeguard indigenous peoples and their cultural heritage, and make suggestions for resettlement plans (IISD, 2015).

A serious problem that still needs to be fxed is the lack of transparency in the way financial benefits are distributed. According to Crawford (2015), revenues from mining are frequently just included into the national budget and it is usually unclear how these monies are subsequently used at the national, district, and municipal levels. Too frequently, Notwithstanding the considerable environmental and social costs that mining activities incur, communities near mines rarely gain significantly from these operations (Crawford, 2015).

Investing locally in health and education is one of the most obvious ways that mining companies may advance development. However, according to the report of IISD (2015), in each of the countries assessed, such investments are entirely up to the mine operators themselves. In the policies and legislation of these countries, the mining companies are under no obligation to contribute to local development.

In all the three countries, there are no policies to strengthen the appropriateness, transparency of collection, viability, management and reinvesting revenues from ASM. Perhaps because of the paucity of funding, particularly when compared to large-scale

mining, the sector's governance is given very little staff and resources at the national level. While the ASM sector supports more livelihoods and has broader environmental implications, there is no department at the ministry of mines in Madagascar that is specifically dedicated to large-scale mining projects Crawford (2015).

There have been wars and ongoing battles over the control of mineral-rich regions in some cases because the benefits of mining have only benefitted a tiny percentage of a country's population, while having no appreciable positive impact on the majority (Arellano-Yanguas, 2011; Kitula, 2006). Due to difficulties such as fluctuating prices (Auty, 2002), fraud (Danielson & Whyte, 1997) and corruption (Petermann et al., 2007) among others, some policies have not produced the anticipated economic impact. Even when the ideal policy is chosen, implementation issues could arise, resulting in disagreements and inefficient initiatives (Petermann et al., 2007).

1.2 PROBLEM STATEMENT.

It can be easy to overlook the role that mining can play in a country's long-term social and economic development when battling to meet the resource needs of a growing population. Mining has the potential to create jobs, generate revenue, increase workforce skill levels, and spur investments in infrastructure, health, and education. Continuous improvement in all these indicators constitute progress in achieving the UN SDGs. It is the responsibility of the governments of nations to ensure that these positive benefits from the mining industry reach the communities and the role of mining companies in achieving this is critical.

These positive benefits are difficult to achieve if mining companies do not adhere to strong legal policies that promote the economic and social development benefits of

mining while upholding strong environmental and social standards. Without proper implementation of such policies and a purposeful commitment to CSR, mining activities run the risk of endangering workers, polluting and degrading the environment, causing non-inclusive growth, and encouraging corruption, among other things.

This research assesses the role of mining companies in relation to sustainable development, why Africa is endowed with abundant natural resources but not developed. It seeks to investigate where the problem lies:

Is it the lack of policies or the lack of implementation? Is Madagascar enforcing policies to achieve the UN sustainable development goals? Are mining companies in Madagascar committed to CSR and are they helping the country to achieve the UN SDGs?

This research also seeks to bridge the gap between mining companies and the local communities in which they operate by providing insightful information on mining and CSR through the findings of this study. It is envisaged that this MBA ARP will add to public domain information regarding mining and its contribution to the economies of developing and emerging countries.

1.3 RESEARCH AIM AND OBJECTIVES.

The main aim of this ARP is to investigate whether the implementation of mining policies and the commitment of mining companies to CSR are contributing towards achieving the UN sustainable development goals in Madagascar. The objectives are to:

a. Analyse the mining policies of Madagascar, and assess the extent to which it aligns with the UN sustainable development goals.

b. Investigate whether the policies have been implemented to efficiently and effectively achieve economic development goals.
c. Assess the extent to which the mining companies are committed to CSR, using the case of Base Tulear.
d. Assess the level of community understanding of the impact of the mining in their area, and their understanding of CSR.
e. Recommend an efficient model that would ensure that government authorities and mining companies achieve sustainable development.

1.4 SIGNIFICANCE OF THE STUDY.

It is envisaged that this ARP would contribute to the scientific and societal discourse on mining and CSR, particular with regards to adherence and implementation of mining policies towards achieving the UN SDGs. This research would also add to the public domain data base and information on the contribution of mining to the economy of developing and emerging countries and the local communities around which the mines operate.

1.5 DELINITATIONS.

The scope of this study was to investigate the role of mining companies in achieving the United Nations Sustainable Development Goals in Madagascar by 2030, through their activities on the surrounding communities where they operate. In this sense, the research

was carried out within the boundaries of the three key dimensions of sustainable development: economic, social, and environmental.

1.6 ASSUMPTIONS OF THE STUDY.

The rate of population growth, the anticipated increase in manufacturing output, and the possible impact of mitigation measures are the assumptions that are used in this study to establish sustainability. These elements are crucial in figuring out whether a specific growth path is likely to be sustainable.

CHAPTER 2. LITERATURE REVIEW

2.1 INTRODUCTION

This chapter reviews the management theories underpinning the current study as well as the relevant empirical literature. The layout of this chapter is as follows: Section 2.2 provides the theoretical underpinning of CSR, an analysis of the mining policies of developing countries. Section 2.3 discusses CSR and sustainable development, Section 2.4 outlines the importance of CSR, Section 2.5 presents a briefing of CSR in the mining industry. Section 2.6 is a contribution of the mining sector in emerging and developing countries. Section 2.7 gives an account of mining and community conflicts, Section 2.8 outlines the challenges caused by mining companies, and Section 2.9 talks about the resource curse, and why not all countries with resource abundance have experienced economic growth and development. Section

2.2 THEORETICAL UNDERPINNING.

The corporate social responsibility (CSR) theories underpin this research. The review of these theories is outlined below.

2.2.1 THE INSTRUMENTAL THEORY.

Proponents of this theory (e.g., Friedman, 1962; Mäkinen & Kourula, 2012) see the corporation as the only instrument for wealth creation. According to them, the company's sole obligation is to achieve its economic results, which is to ethically maximize

shareholder value within the rules of the law, achieving competitive advantage, and cause-related marketing. As such the company's management is accountable to the owner and shareholders, who want to make the maximum profit possible. In this regards, instrumental CSR is defined as CSR actions that are primarily focused on short-term stakeholder relationship improvement. The application of instrumental CSR to increase efficiency in the pursuit of financial performance is therefore the highlight in this view (Jones & Wicks, 1999; Barnett & Salomon, 2006; Husted & Salazar, 2006).

However, Garriga and Melé (2004) argue that, the concepts of maximization of shareholder value and achieving competitive advantage are not mutually exclusive; a business can engage in CSR to enhance its competitive advantage with the ultimate goal of maximizing shareholder value.

Mining companies work close to local communities, and in the case of the Imaloto mine, this can be done in the form of philanthropy. For instance, making donations of a small portion of profits to charities or assisting NGOs with a specific mission.

2.2.2 THE POLITICAL THEORY.

Teorists of this group (e.g., Safarza, 2017) argue that a corporation has the responsibility to use its political life and support groups that aim spread the culture of human rights, women’s rights, labour rights and fight corruption.

Globalization, according to Scherer et al. (2014), necessitates a new perspective on the political function of business in society as well as on how it contributes to social innovations and the general public welfare. They contend that a new notion of the business enterprise as an economic and political actor in market societies and as an actor

who serves both private and public interests must take into account these phenomena (Scherer et al., 2014: p. 148). Despite the claims made by Friedman (1962), Levitt (1958), and others that the role of business is to make profit and that the government is required to meet all types of individual and community needs (Lantos 2001: p. 613), political decisions are no longer only made by the state (Baur & Palazzo, 2011: p. 586).

It is not in the best interest of the public when the state is unable to control the economy, address global social and environmental issues, provide public goods (such as infrastructure, public health care, and education), or manage citizenship rights (Matten & Crane, 2005, Scherer et al., 2014).

The preservation, facilitation, and enabling of citizens' social, civil, and political rights—previously an expectation put primarily on the government—are among the duties that corporations and nongovernmental organizations (NGO) frequently step in and take over (Teegen et al., 2004). (Matten & Crane, 2005). These are often expressed in regulatory standards created by organizations like the Global Reporting Initiative, the UN Global Compact, the ISO 14000 series, or the Social Accountability 8000 for CSR reporting, albeit they are not always expressed in national laws.

These programs support social welfare, human rights protection, public health, education, and social security, or they engage in self-regulation to fill in the gaps in the law and advance societal peace and stability (Matten & Crane, 2005). This goes beyond the instrumental view of CSR to create a new understanding of world politics where the private sector, like businesses and civil society groups, actively participate in the democratic regulation and control of market transactions (Scherer & Palazzo, 2011: p. 901). In this context, CSR therefore should be viewed as a political obligation (Scherer et al., 2006; Gilbert & Rasche, 2007; Scherer & Palazzo, 2007; Reynolds & Yuthas, 2008;

Baur & Palazzo, 2011), and if for any industry, the mining sector should be leading this as mining companies operate in close proximity to local communities.

2.2.3 THE INTEGRATIVE THEORY.

Here the company's focus in on the satisfaction of ethical and social demands. Social development of the local community may include supporting charities and welfare institutions such as the elderly, orphanages, or funding youth and sports activities or centres (Radzi et al., 2018). The integrative theory is a transdisciplinary approach, which requires all stakeholders to be involved in all the stages of a project implementation process (Lang et al., 2012). According to Gross and Stauffacher (2014), this should begin with the problem-framing phase, continue through the main project phase, which involves the production of output, and bring all stakeholders together to obtain results that have been gathered to their own perspective of application. In order to accomplish the objectives of sustainability in CSR, a transdisciplinary, community-based, interactive, or participatory approach has been suggested to be the best (Lang et al).

2.2.4 THE ETHICAL THEORY.

Ethical responsibility entails corporate commitment to respect the ethics of its society (Garria & Mele', 2004). Theorists of this school (e.g., Garria & Mele', 2004) state that companies should consider transparency and credibility with their stakeholders when conducting business. Business ethics is concerned with governance, standards of conduct, and moral principles and decision-making. According to Beverungen and Case (2011), corporate ethics contains a fundamental dislocation linked to perceptual feelings originating when things are out of place.

The idea of business ethics is evolving as a result of new technology, new methods of resource mobilization and utilisation, changing societal norms, and the development of a constantly connected global business network. Business ethics are at the forefront of the discourse on societal standards as a result of growing global awareness of the depletion of natural resources, the widening income gap, and the pervasiveness of corporations in every citizen's life thanks to technologies like big data and cloud computing (Mridula & Ramanathan, 2014).

2.3 CORPORATE SOCIAL RESPONSIBILITY, SUSTAINABILITY, AND DEVELOPMENT.

Corporate social responsibility (CSR), also known as corporate citizenship (Matten, & Crane, 2005), can be defined as a self-regulating business model that helps a company to be socially accountable to itself, its stakeholders, and the public (Fernando, 2022). By practicing CSR, companies become conscious of the impacts that their operational activities have on all aspects of society, including economic, environmental and socio-cultural effects (Garriga, 2004).

Companies that practice CSR, operate in a manner that enhances society and the environment during the ordinary course of its business instead of contributing negatively to them (Mridula, & Preeti, 2014; Scherer & Palazzo, 2014). CSR is one way of addressing the resource curse dilemma, especially in developing and emerging countries, while boosting the brand name of the company.

Emanating from CSR is the term “Corporate sustainability (CS), which is used as a synonym to CSR. These terms, together with “Sustainable development” are used to

describe the commitment of a company to conduct business in an ethical manner, set goals and make decisions that consider the different stakeholders, with an aim to better society as a whole (Sheehy & Farneti, 2022). Lawler & Worley (2012) indicated that sustainability is a major issue for businesses, and that the success of a company does not only depend on the company's financial success, but also on the company's impacts on the natural and social environments within which the company operates.

2.7.3 IMPORTANCE OF CSR.

CSR can help a company to improve relationship with the public, as well as promote the company's brand image. Boyce (2022) outlines the following key purpose of CSR:

Employee engagement and morale.

Most workers want to be part of something bigger and meaningful in a company than just a job which provides them with nothing but the routine of going into the office, work and go home every day (Levitt, 1958. Several companies have specialized CSR teams that are responsible for planning fundraising events. Sports activities, for instance, may be sponsored in order to raise money. Employee engagement and a sense of helping society through their workplace are fostered in this way. Such events enhance employee well-being, thus promoting a good work/life balance. The benefit to the company here is that the employees become more productive (Leisinger, & Schmitt, 2011).

Betterment of Society.

Most CSR projects do benefit charity organisations such as the Red Cross Foundation, the Salvation Army either by offering manual labour or by funding them. In general, such actions truly benefit the local communities by helping those struggling in society.

Donations from charities can help the poor people out of poverty, fight illness, and increase the wellbeing of people in general (Boyce, 2022).

Brand Image.

The reputation and brand of an organization can benefit from CSR. For instance, a study by Cheryl (2013) found that "more than 70% of people make a point of buying from companies with ideas similar to their own, while 87% of customers in the UK expect businesses to consider their societal influence as much as their own" (as cited by Boyce, 2022).

So, a company's participation in CSR is not only desirable morally, but it may also be profitable. There will be greater sales for them if people are more likely to patronize ethical businesses. Hence, even though CSR may be expensive, it can result in a win-win situation through increased demand or, in the case of mining businesses, improved public relations.

2.7.4 CSR IN THE MINING INDUSTRY.

Mining companies, especially the large multinational companies (MNCs) of the oil and gas and onshore mining, impose significant changes on rural and societal spaces (Machanguana, 2006). From environmental issues, economic impacts to social matters such as the involuntary displacement of people, the impacts of mining are complex with frequent negative consequences for local communities (Owen and Kemp, 2015).

The central idea CSR is in controlling and reducing the negative impacts that result from the operations of mining companies and to reinforce the positive ones in a moral, ethical and legal manner, while responding to the needs and expectations of stakeholders along the value chain and thus contributing to sustainable development (Machanguana, 2006;

Abdul-Rahman et al., 2012). CSR is therefore a useful conceptual framework through which the corporate attitude of mining companies towards their stake-holders can be explored (Wheeler et al, 2002). The primary objective of CSR in the mining sector is to strike a balance between the various demands of communities, the pressing need to safeguard the environment, and the pervasive desire to turn a profit (Jenkins, 2004). So, it can be seen as a request for businesses to address issues like climate change, employee welfare, and human rights in addition to their shareholders and other stakeholders including affected communities, customers, employees, and the general public (Hamann, 2003).

In many nations and businesses, and particularly in the mining sector in recent years, concerns about sustainability and corporate social responsibility (CSR) of firms are rising to the top of the agenda. The growing requirement for businesses to justify their existence and demonstrate their performance through the disclosure of social and environmental information is a significant result of the CSR agenda in the mining industry (Barnett & Salomon, 2006). CSR and other similar voluntary programs are significant for mining firms for a number of reasons. Some of these are outlined below (as stated by Walker and Howard, 2002): One, in general terms, public opinion about the mining industry is poor, as concerns over environmental and social issues overshadow actual performance of the company. Two, the mining industry has consistently been targeted by pressure groups at local and international levels, challenging the legitimacy of the industry. For example, the "Treasure Karoo Action Group" (TKAG) oppose the introduction and licencing of fracking in South Africa. Three in recent years, the financial sector has been scrutinising mining companies from both risk management and social responsibility perspectives. Increasingly, mining companies have been screened out of the Socially Responsible Investing (SRI) funds all altogether (SRI, 2002). Four, Maintening 'a licence

to operate' is becoming a frequent challenge, as local communities and pressure group and to oppose the mine based on accusations of bribery for concessions, impacts on the mainly agricultural local land-use, lack of community engagement, pollution and related health impacts, as well as the influx of work-seeking migrants.

2.8 THE ECONOMIC CONTRIBUTION OF THE MINING SECTOR IN DEVELOPING AND EMERGING COUNTRIES.

The International Monetary Fund (IMF) estimates that, by 2025, the GDP growth of the Sub-Saharan countries would exceed 6.6 %, and has accordingly, upgraded many countries in the region including Botswana, Ghana, Kenya, Mozambique, Nigeria, Tanzania, Uganda and Zambia to the rank of emerging markets (IMF, 2021). These emerging economies showed a dynamic performance prior to the 2008 global economic crisis and a stronger recovery since then. This resilience has highlighted the ever-growing focus on the opportunities that these emerging economies offer for investments (Akongwale et al, 2013).

The rapid economic growth seen in the emerging countries of Africa, can be attributed to the fact that Africa is endowed with rich natural resources including solid minerals petroleum and naturals gas (McMahon, & Moreira, 2014). The mining industry is, therefore, seen as the key driver of economic growth, development and improvement in social well-being in this region since 2000 (Akongwale et al, 2013; Signé & Johnson, 2021). With the current trends in technological advances and divergence to renewable energy, Africa's economy is expected to follow growth trajectory as the continent is endowed with most minerals and metals required for the production of clean energy (Akongwale

et al, 2013). For example, the continent produces over 80% of the world's total supply of Platinum, 50% of manganese, two-thirds of cobalt and a significant amounts of chromium (IEA, 2019). It is expected that demand for these materials would continue to increase into the future, as these minerals are critical in the production of batteries, wind turbines and solar energy (IEA, 2019).

The mining sector is anticipated to continue to be crucial to the economic growth of industrialized, developing, and emerging nations (Pietrobeli et al, 2018). Yet, unchecked exploitation caused by overreliance on natural resources and the mining sector has resulted in negative environmental effects such the release of toxic gases, climatic issues, ecosystem disruption, and biodiversity loss (Marimuthu et al, 2021). All countries have been deeply concerned about the mining-related issues, and prior study identified a lack of institutional control and a lack of community pressure as the primary causes of the escalating environmental issues brought on by mining (Chand et al., 2020).

2.5 MINING AND COMMUNITY CONFLICTS

Compared to other industries, the mining industry has been involved in more disputes with local communities (Hilson, 2002). While many communities around the world have benefited from mining activities, in other communities mining activities resulted in environmental issues and protracted community-level conflicts with mining companies, such as in a case of Wassa west District in Ghana (Taabazuing et al., 2012). In some cases the conflict even escalated to violence. The social and economic welfare of the local communities are usually at the center of such conflicts. Zandvliet and Anderson (2009), alludes that often multi-national mining companies either accidentally or deliberately

engage in or fuel existing or hidden concerns within indigenous people. Some mining communities have complained about the lack of access to land or water, land usage or ownership, environmental effects, social and cultural upheaval, violations of human rights, unequal resource distribution, and underdevelopment of the local community. In fact, Calvano (2008) refers to the interaction between the local population and large-scale mining companies as a battleground.

The severity of the conflict is greatest in developing countries, where little government intervention occurs, regulatory frameworks are frequently deficient, and less efficient support programs for community and industrial groups are in place (Hilson, 2002). The situation is made worse by the fact that some governments of developing countries, support mining companies on important land use issues.

The ownership and control of mineral-rich lands are other sources of conflict in indigenous mining groups. The fluidity in terms of land ownership, control, and rights, lead to violent conflicts between artisanal small-scale mining (ASM) and large-scale mining entities in developing countries. Buckles & Rushek (1999) posits that mineral resources are prone to disputes because their utilization creates a complex web of users and leaves room for the most powerful to exert control over resource management. Foreign large-scale mining companies, the government, and the indigenous population are frequently the three main parties in disputes in indigenous mining communities.

In addition, disputes can arise in indigenous communities over to the right to participate in decision making regarding resource management and its beneficiaries.

Ayling & Kelly (1997), indicates that bthere are more disagreements in ASM operations than in other natural resource-related industries because there are more competing interests for a limited supply of resources and because access to land rights is typically not available. Land use disputes between ASM and large-scale mining companies are

merely a microcosm of conflicts over natural resources to which local populations are culturally bonded but to which they lack a legitimate legal right of exploitation (Ayling & Kelly 1997). Buckles & Rushek (1999) go on to emphasize that the use of resources often denotes indigenous lifestyles and cultural identity in addition to supporting the livelihood of indigenous populations. The high degree of illegality in a large chunk of ASM activities in indigenous communities results from state agencies' refusal to recognize ASM operations as legal. There is little to no central government supervision in a number of developing nations where ASM occurs (as seen in the IISD report of 2015), and indigenous institutions for conflict management are more likely to disintegrate as the value of certain natural resources rises (Ayling & Kelly (1997).

ASM operations are particularly prone to conflicts with indigenous communities in underdeveloped countries and are frequently located in remote hinterlands, making access to mining sites challenging. In the DRC, for example, violent conflicts have progressed from minor ones to civil wars. Switzer (2001) predicts that this situation may spread to other developing countries in the coming years, if the key players do not address fundamental issues including the livelihoods of the local population, environmental damage, poverty, and underdevelopment of indigenous communities in which mining operations take place.

2.6 CHALLENGES CAUSED BY MINING INDUSTRIES.

The challenges related to the mining industry are many and some of them (among others) have been summarised and presented as follows. One, environmental challenges. Mining operations do cause the contamination of air, water and soil due to the direct disposal of mining wastes (Anawar et al, 2015; Hilson 2000).

There is also environmental pollution from chemicals used in the extraction process. Untreated chemical wastes entering the environment causes pollution. (Hilson and Monhemius, 2006).

Potential effect on buildings and other structures due to sinkholes and other effects. Poor mining methods may lead to the formation of sinkholes; emission of gases such as CO2 and cutting of trees may affect buildings (Pellegrino and Lodhia, 2012; Hull et al., 1996).

Mining produces Nitrogen wastes which results in photochemical oxidant formation. (Dunmade et al. 2019). Two, Operational challenges. Although mining companies harness their labourers from local communities, labourers are not paid an appropriate salary (Gruenhagen and Parker, 2020).

Industrial progress towards a sustainable manufacturing process is hampered due to the shortage of skilled labourers (Gruenhagen and Parker, 2020).

Increasing business competition is also making income generation more and more difficult (Govindan et al., 2014; Gruenhagen and Parker 2020).

Labourers are usually semi-skilled and do not possess a sufficient degree of competence due to inadequate training (Zhang (2017); Roldán et al. (2019).

There are inadequate grievance mechanisms due to non-adherence to worker's safety norms (Carstens and Hilson, 2009).

Providing an ambient working environment to employees remains a major challenge to many mining companies (Brereton and Parmenter, 2008; Tuokuu et al., 2019).

Unfair wages due to racial and gender bias is still present in the wages of employees regardless of the work involved (Thasi and van der Walt, 2020).

Three, Social challenges. Lack of involvement of local community. Mining companies fail to maintain a healthy environment and social life leads to a lack of local community involvement in their work (Jenkins, 2004).

Lack of social inclusion in mining industry. Social exclusion of workers in the mining industry is caused by the lack of opportunities and dignity (Frederiksen (2018).

Involvement of child labour. The practice of child labour has increased due to poverty (Hilson, 2010).

Lack of work/life balance. Growing concern on work imbalance due to continuous work schedule without sufficient interval (Jacobs et al., 2008; Munawer, 2018).

Poverty of local community. Ineffective wage practice aggregates poverty in the local communities (Deaton and Niman, 2012).

Indigenous people of the local communities are forced to migrate from the onset of the establishment of many mining companies (Jiskani et al., 2020; Zhang et al., 2020).

2.7 THE RESORCE CURSE

2.7.1 INTRODUCTION. Resource curse, also known as "the paradox of plenty" or "the poverty paradox" (Moradbeigi, & Law, 2016), is defined as the phenomenon whereby countries with abundant natural resources have less economic growth, less democracy and worse development outcomes than countries with fewer or no natural resources (Fernando, 2020; NRGI), 2015). Other researchers call this phenomenon a "resource trap" (Dwumfour & Ntow-Gyamfi, 2018).

Despite all the evidence showing that Africa's economy (particularly Sub-Saharan Africa) is growing faster than that of the rest of the developing countries and some developed countries, the growth impact of natural resource revenues remain questionable (Dwumfour & Ntow-Gyamfi, 2018). Previous studies (e.g. Carmignani, 2013; Allcott and Keniston, 2014; Aragon and Rud, 2013) question whether the abundance of natural resources and natural resource revenues are a blessing or a curse to the economic growth and development of African countries.

It is expected that countries endowed with abundant natural resources will use them to grow their economies and foster the well-being of their people, which in turn should help countries to achieve the UN SDGs by 2030. Yet, many nations with significant natural resource assets, particularly those in Africa, have not experienced this (Lujala, & Epremian, 2017). In fact, the material now in print demonstrated that such resource abundance has actually been detrimental to the nations who possess them (Frankel, 2012).; Van der Ploeg, 2011; Sala-iMartin and Subramanian, 2013), and this is what is referred to as "resource curse". There is also the question of whether the curse is generated by the resources themselves. For example, in terms of the quality of the goods or if using the resources inherently creates harm. However, numerous studies have demonstrated that in nations with a wealth of natural resources, the curse is not in the resources themselves but rather in how they are used and the circumstances of the nation, its citizens, institutions, and authorities (Kronenberg, 2004; Karabegovic and Smimou, 2010).

Good examples of the resource curse paradox in developing and emerging countries of Africa can be seen in countries like Nigeria, Angola, Zambia and Sierra Leone, which are all resource-rich countries, but are referred to as "growth losers" (Kronenberg, 2004; Frynas, (2020). Despite having enjoyed huge oil windfalls since the late 1960s, Nigeria's

per capita GDP is among the lowest in the world and was even lower in 2000 than it was in 1970 (Sala-i-Martin & Subramanian, 2013). Similar evidence is also known of the diamond-rich Angola and the Sierra-Leone with its famous "Blood Diamond" story. Yet, there are some examples of resource-rich countries (growth winners) such as Botswana, as well as Korea, Singapore, Hong Kong and Taiwan (the Asian Tigers), that are not resource cursed (Sala-i-Martin & Subramanian, 2013). Average incomes in Botswana, which is a diamond-rich country, are more than four times higher than in Angola and property rights are considerably stronger too. Botswana has been one of the fastest growing countries in the last 40 years (Acemoglu et al., 2003).

2.7.2 CAUSES OF RESOURCE CURSE.

There are two special characteristics of natural resources (oil; minerals like silver, gold, iron, copper; and marine resources that are non-renewable). The first is that natural resources are found in nature, and from an economic point of view only extraction from the earth is required to generate wealth from them. Therefore, extractive activities based on natural resources can be conducted in a manner that is isolated from productive activities performed in the country (Karabegovic & Smimou, 2010)

The second characteristic of natural resources is that, at some point they would run out because they cannot be produced. Thus, they are non-renewable

Experience in some countries such as Rwanda has shown that countries with less abundance of natural resources have had to deal with their limited resource situation and this has pushed them to seek alternative economic growth and development paths. Those routes to growth and development were based in productive activities rather than in extractive activities. While it should be expected that countries blessed with abundant

resources should use these resources as leverage for their economic growth and development, these routes are likely to be more complex and difficult than one might expect. These complexity and difficulties are due to the many undesirable effects that are involved from abundant natural resources (Frynas, 2020).

Some of the observations and theories on how these special characteristics of natural resources and the revenues they generate create additional challenges for resource-rich countries are outlined below (NRGI, 2015):

One, over the past several decades, natural resource wealth, particularly oil and minerals wealth, has made it more likely for governments of resource-rich countries to become or remain authoritarian. This can be explained from a taxation point of view. Generally, political scientists have found that governments of most countries are more responsive to their citizens and are more likely to transition to democracy when government spending is largely reliant on citizen taxation. When a country's revenues come largely from natural resources, the government is less dependent on levying taxes on citizens, and thus citizens feel less invested in the national budget. As such, politicians and government officials feel less directly tied to the demands or requests of their citizens. In addition, when resource revenues are secret, citizens are not well informed on whether the resource revenues of their country are being spent well or not. Proponents of this theory suggest that authoritarianism tendencies can be mitigated by increased transparency of revenues and strengthening the links between government and citizens through citizen participation in budgeting or direct distribution of wealth (Gedikli, 2019).

Two, Natural resources have often been used to sustain internal conflicts in many countries as rival groups fight for control of the resources or use them to finance the fights. Oil-producing countries, for example the Niger Delta, the Democratic Republic of

the Congo (DRC), Libya, Iraq and Angola, have been twice as likely to have a civil war compared to non-oil-producing countries since the 1990s (NRGI, 2015). Petro-aggression, which is the tendency of oil-rich countries to instigate or even worse, be targets of international conflicts, has been observed in some cases. For example, the invasion of Iran and Kuwait by Iraq. However, there are debates on whether resource-rich countries are more aggressive, and do so more often than non-resource-rich countries (NRGI, 2015).

Three, due to fluctuating trends in world commodity prices and production capacity, the amounts that a government collects in resource revenues could drastically change from one year another. Research has shown that it could be very difficult to effectively manage fluctuating and unpredictable resource revenues. It is common for the governments of resource-rich countries to get trapped in the boom-bust economic cycles where the tendency is to spend on legacy projects, such as monuments and airports, when revenues are rising and then must make painful cuts when revenues decline. Government officials of resource-rich countries also have the tendency to over-spend on government salaries and inefficient fuel subsidies but to spend less on education, health and other social services. Furthermore, governments of resource-rich countries often over-borrow when revenues are high because they have improved credit-worthiness. It is this type of behaviour that led to debt crises when revenues declined in Nigeria, Mexico and Venezuela in the 1980s (Gedikli, 2019). The private sector can also be impacted in similarly manner, as it could over-invest in boom times and then experience widespread bankruptcy during busts (Ibid).

Four, NRGI, (2015) describes the "Dutch disease" as a situation whereby "A large increase in natural resource revenues can hurt other sectors of the economy, particularly

export-based manufacturing, by causing inflation or exchange rate appreciation and shifting labor and capital from the non-resource sector to the resource sector. NRGI, (2015) explains that "While inflation and exchange rate appreciation can harm large swathes of the economy over within a few years, their impacts can be felt for decades". The detrimental effects of natural resource revenues on other industries of an economy has been well documented in Russia, Iran, Trinidad, Venezuela and Tobago. All these countries either have stunted manufacturing sectors or have seen a precipitous decline in manufacturing (Moradbeigi & Law (2016). Such impacts can be mitigated if the government has the absorptive capacity to transform resource revenue inflows into tangible investments, such as the building of roads and other infrastructure. Secondly, the government can also invest resource revenues into economies that generate non-resource sector growth. And thirdly but not the last, the government can place a portion of its resource revenues in foreign assets (Lujala & Epremian, 2017). Five, because of the point-source nature of extractive industries, there are often challenges when it comes to balancing the needs of the local community people and environments in the vicinity of the mining area. The sharing and compensation for resources such as land, water and the mineral resources themselves often create conflicts between mining companies and the local communities. Moreover, mining projects usually attract large influxes of people looking for employment (Shuai & Yang, 2014). Such situations can cause stress on economic and socio-cultural relations. Environmental challenges of mining are many and varied and include scarring of the landscape, dust from mining operations, noise from process operation, contamination from waste rocks and tailing disposals and massive use of water in the extractive process among others (Marimuthu et al, 2021). But even more crucial, is the concern of human rights violation that could result from many of the political and economic problems outlined above. This could be mitigated if the agreement

between government authorities and the mining companies address these issues and clarify clearly whose responsibility it is to manage these impacts. And these must also be communicated to the local communities in the vicinity of the mines.

CHAPTER 3 RESEARCH METHODOLOGY

3.1 STUDY AREA.

The area studied is the Atsimo Andrefana Region, which is located in the south-western part of Madagascar (Figure 1). It is bounded to the North by the Mangoky River, to the East by the Isalo Massive and part of the Ihorombe Region, in the South by the Menarandra River and to the West by the Mozambique Channel. It is the largest Region, among the 22 Regions of Madagascar, covering an area of 66,813 km² and represents approximately 11% of the country's territory. Toliara (Tulear) is the Regional Capital.

Agriculture, livestock, and fish farming are all major economic activities in the Atsimo Andrefana Region, providing 90.4% of jobs in the Region (PRD, 2019). The mining sector is one of the region's flagship economic activities. Mining towns like Ilakaka and Sakaraha were developed during the 1990 rush for sapphire and ruby, which turned Madagascar into one of the world’s largest producers of these coloured gemstones (Cambell, 1988). Artisanal mining of gold and these gemstones are still a livelihood activity in many parts of the region, including Benenitra and Ranobe. The region is also the one with the largest number of industrial scale mining activites. Base Toliara is currently exploring for mineral sands in Ranobe, while Lemur Holdings and PAM SAKOA are exploring for coal in the Sakoa Basin in Benenitra.

3.6 SAMPLING DESIGN.

For this study, the Purposive Sampling technique is used to select the Benenitra and Ranobe districts as areas of study due to the advantage of prior knowledge of the areas and accessibility. These areas are reflective of artisanal, small and industrial scale mining

operations in Madagascar. Random sampling was employed to select respondents in the districts in order to ensure respondents randomization for the interviews. The selection of respondents was based on a judgement of their compatibility, ability and knowledge of the subject matter. The knowledge of the respondents gave an idea on whether the sample is representative of the population or not.

3.7 POPULATION AND SAMPLING.

According to the "Institut National de la Statistique Madagascar (INSM, 2020), the total population of the Atsimo Andrefana Region is 1,851,79, and represents 6.2% of the national population. The Bay of Ranobe consists of 13 villages with a total population of 8,000 people, while the population of the Benenitra District (Benenitra town and surrounding villages) is 43,332 (UN, 2021), with an annual growth of 1.9%.

All respondents are from the age of 18 years and above. Respondents include a randomly selected sample of the mining industry practitioners, including environmental consultants, engineers, representatives of relevant government departments and private sector, local community members, traders, transporters, farmers and artisanal miners.

Consideration was made to ensure inclusiveness in terms of occupation, gender, age and level of education (tertiary, secondary, primary or none). Confidentiality was guaranteed in order to promote candid and open debates, and ensure quality of the data collected. The sample size (Table 4) was determined from the number of communities where mining operations take place. 80% of the participants came from Ranobe and Benenitra, and the rest from Antananarivo.

Table 4 Sample population and size.

Participant group	**Age range**	**Sample size**
Farmers	25 – 60	4
Local sapphire traders	35 – 45	1
Artisanal miners	35 – 45	1
Food vendors	35 – 45	2
Transporters	35 – 60	2
Businessmen	45 – 60	5
Government officials	45 – 60	3
Private companies	25 – 60	4
	Total sample size	**22**

3.8 DATA COLLECTION AND RESEARCH INSTRUMENT.

This research is an exploratory study that seeks to undertake a synthesis of the implementation of mining policies and the contributions made by mining companies in developing countries in general, and in Madagascar in particular, through Corporate Social Responsibility (CSR), in achieving the 2030 United Nations Social Development Goals (UN SGDs).

In terms of the policy analysis, four of the 17 UN SGDs have been selected to assess Madagascar's level of achievement of the UN SGDs. The UN SGDs selected include: one, end poverty in all its forms everywhere; two ensure healthy lives and promote well-

being for all at all ages; three Quality education and four, Industry innovation and infrastructure.

The investigation tested if these four UN SDGs have been achieved, are in progress or if no policy is in place in Madagascar, to achieve the four selected SDGs. The main instrument used in this aspect is a score card of 4 points (Appendix 1), using the Global indicator framework for the Sustainable Development Goals and targets of the Agenda 2030 for Sustainable Development, for the region of Atsimo Andrefana, in south western Madagascar (PRD, 2019). This was supported by some interviews through face-to-face conversions with relevant stakeholders. The responses from these discussions were jotted on the survey instrument and used as additional information for interpretation.

In terms of the role of mining companies in achieving the UN SDGs through CSR commitments to the communities where the mines operate, primary data obtained through a face-to-face survey constitute the main survey instrument. The survey instrument is attached as Appendix 2.

The survey was structured with specific questions designed to elicit specific answers from respondents from a fixed range of answers, which are relatively quick and easy to administer, and the respondent was only required to place a tick in the box corresponding to the correct answer. The ultimate goal was to guarantee that each survey session is conducted with exactly the same questions and all respondents received identical set of questions in the same context. In this way, the responses from research respondents can be combined, enabling relevant comparisons within the sample. Personal conversation with respondents gave more information during the interview, and this was fundamental in understanding the perception of the respondents.

The literature review forms part of the secondary data and provides the theoretical base for this research.

3.9 DATA ANALYSIS AND TECHNICS.

This is a quantitative research and the raw data was examined and organised into manageable units, in order to determine the accuracy of the study. The data obtained was analysed using excel. The excel sheet containing the organised data is presented in Appendix 3. The information obtained was presented in frequency table proportions and pie charts were constructed to make comparisons and give a clear understanding of the findings. Trends and tendencies observed are discussed in the following sections.

CHAPTER 4 RESULTS.

4.1 RESPONDENTS.

22 participants were successfully surveyed (Appendix 3), and presented graphically in the pie charts in Figure 2. Of the 22 respondents, 15 were male, making 68% of the total number of respondents, while 7 (32%) were female. 50% of respondents fell between the ages of 45 to 60, and no respondent was below the age of 25. Up to 77% of respondents have studied beyond secondary school, with the majority (33%) having a tertiary education. 63% of the respondents reside in the small towns of Ranobe and Benenitra, where mining companies operate, but also 23% in Toliara, which is the closest main town to both of these localities.

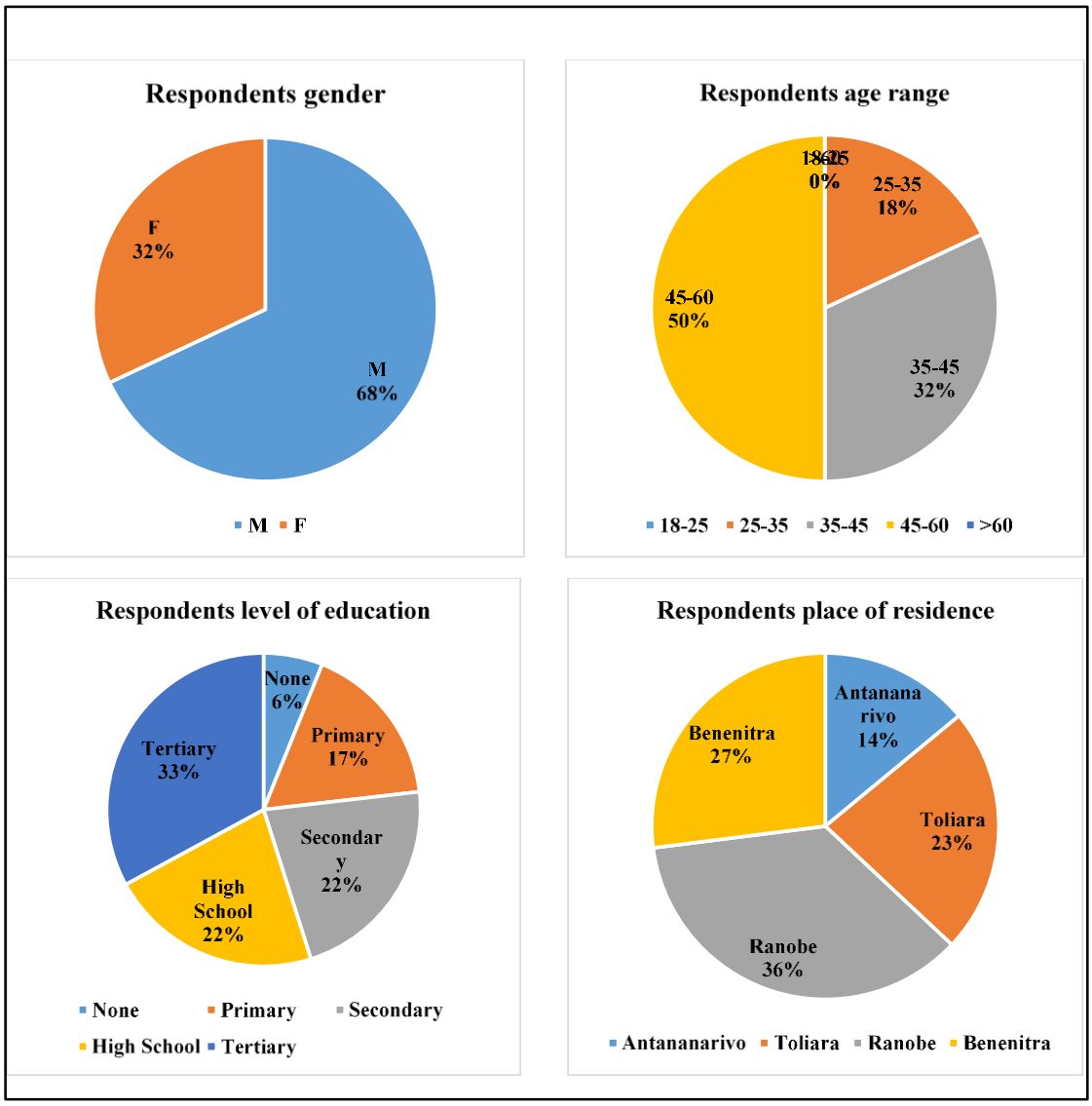


Fig. 2 Pie charts of respondents details.

4.2POLICY IMPLEMENTATION AND ROLE OF MINING COMPANIES IN ACHIEVING UN SDGS (AGENDA 2030).

Table 5 is a score card to determine if Madagascar has any policies in place, and if these policies have either been achieved, is in progress or if there's no policy at all in achieving the 4 selected UN SDGs, namely no poverty, Good health and well-being, Quality

education and industry innovation and infrastructure development. The indicators were obtained from the annexures of the PRD, (2019).

Table 5 Score card of the UN SDGs policy implementation in Madagascar.

UN SDG No.	Goals	No policy	Policy in progress	Policy achieved
1	No Poverty: end poverty in all its forms, everywhere.	1		
3	Good health and well-being: ensure healthy lives and promote well-being for all at all ages.	1		
4	Quality education: ensure inclusive and equitable quality education and promote lifelong learning for all.	1		
9	Industry innovation and infrastructure: build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.		1	

Scoring……1 / 4 points.

Table 6 shows that the Government of Madagascar has no policy in place to end poverty in all its forms by 2030. In areas where there are policies in place, such policies are still in progress and non is fully achieved towards attaining the UN SDGs by 2030.

According to the PRD (2019), the regional strategic documents contain no measures (or policy) to cater for UN SDG No. 3 (Good health and well-being), for instance. AIDS, tuberculosis, hepatitis, and other neglected tropical diseases are not being addressed. There are also no policies for UN SDG No. 4 (Quality education). There are no measures related to gender, early childhood, preschool education.

In terms of UN SDG No. 9 (Industry innovation and infrastructure), there are policies in place that are in progress, but not fully achieved towards attaining Agenda 2030. There is the promotion of investments in the energy sector, particularly in renewable energy, which ultimately promotes the sustainability of industries (USAID, 2020), but without quality education, industry employment is not sustainable due to lack of skilled labour.

Results of the face-to-face interviews also shows that, in general, the population is of the opinion that the government is doing very little or nothing in terms of policy implementation to achieve the UN SDGs by 2030. Respondents were asked 7 questions relating to governments efforts in implementing policies that ensure appropriate social protection systems to achieve the UN SDGs by the year 2030, the four selected UN SDGs, and the commitment of mining companies to CSR as a way of assisting the government to achieve the UN SDGs by 2030.

The results are given in Section B of the survey instrument (Appendix 1) and plotted in the pie charts in Figure 3. From the pie charts, it can be seen that the responds from the population conforms to the indicators of the PRD (2019), confirming the fact that the government either has no policies in place, or is doing very little in terms of policy implementation in achieving the UN SDGs by 2030. This was the sentiment expressed by the majority of respondents, in a conversation with them during the interviews.

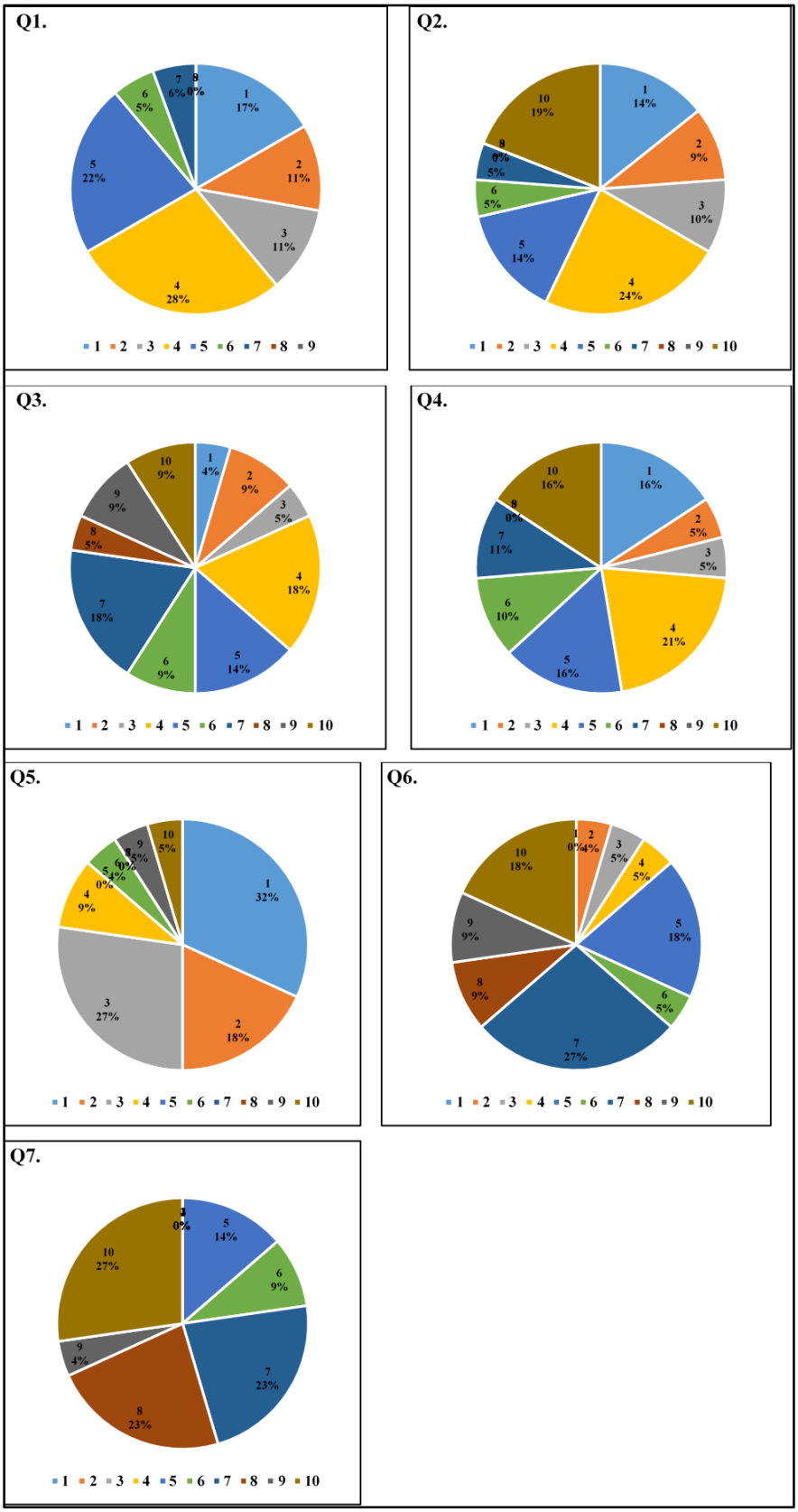


Fig. 3 Pie charts of respondents on policy implementation and role of mining companies in achieving the UN SDGs by 2030.

The pie chart for Question 1 (Q1.) shows that 67% of the respondents rated the Government's implementation of appropriate social protection systems to achieve the UN SDGs by the year 2030 below 5, with a majority (28%) giving the government a rating of 4.

In terms of the 4 selected UN SDGs, 57% of the respondents rated the government below 5 for its efforts in eradicating poverty (Q2.), with a majority (24%) giving the government a rating of 4. There is an even divide within the population in terms of their assessment of Governments efforts in ensuring access to quality essential health-care and well-being (Q3.). 50% of the population think that the government is doing well in this regards, while the other 50% thinks that the government is doing little or nothing. According to conversations with a few government officials and some educated individuals of the private sectors, the government is doing a lot in getting social welfare packages and aids from Non-Governmental Organisations (NGOs) such as USAID and the World Bank. These aids, which mostly come in the form of food hand-outs and the distribution of medicines, sponsored by these NGOs can easily be seen as efforts from the government by the uneducated population, especially in the rural communities. Such aids are not sustainable, according to the educated respondents, and are most often linked to some political and economic gains rather than any efforts to help the communities. Cases were reported of government officials getting food parcels and selling them back to the local communities.

The responses to Governments efforts to ensure quality education for all (Q4) show a slight divergent from the policy indicators of the PRD (2019). While the indicators point to no policy in place, 53% of the respondents think that the government is doing well in its efforts in ensuring that all girls and boys complete free, equitable and quality primary

and secondary education. Again, this seems to be a misconception. According to conversations with some of the educated respondents, the government of Madagascar has passed on decrees declaring the creation of many schools and other educational institutions, but without providing the necessary resources required for the schools to run efficiently. In many of the public schools there not enough staff, no classrooms for learners, and very little or no material supports, such as the provision of textbooks.

In terms of government's efforts in industry innovation and infrastructure (Q5.), an overwhelming 86% of the respondents ticked a rating below 5, with the majority (32%) giving a rating of 1. The PRD (2019) indicators show that there are development-oriented policies in progress, that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises. The government is encouraging investments in the energy sector, particularly promoting renewable energy.

With regards to the commitment of mining companies to CSR and how this is helping the government to achieve the UN SDGs by 2030 (Q6), 86% of the respondents ticked a rating above 5, with the majority (27%) giving a rating of 7. All 22 respondents (100%) were of the opinion that the mining companies near their communities very actively engage with the local communities in terms of communication and educating the communities about the mines.

It appears therefore that, while the mining companies are fully engaged and committed in CSR, and showing interest in developing the local communities where they operate, the government is lagging behind with the implementation of appropriate social protection systems to achieve the UN SDGs by the year 2030.

4.3 LIVELIHOOD OPPORTUNITIES FROM MINING COMPANIES

Results of the surveys on the livelihood opportunities that mining companies may provide to local communities are given in Section C of the dataset (Appendix 3), and presented graphically in the clustered columnar chart in Figure 4. Up to 15 respondents strongly agree that mining companies create jobs for the communities. 6 other respondents agree to this and only one respondent disagrees. Surprisingly the respondent who disagrees is a geologist, and this has been interpreted as a misunderstanding of the question. More than 50% of the respondents either agreed or strongly agreed that mining companies do improve their livelihood by providing new opportunities of one sort or the other. This could be in the form of new business opportunities, infrastructural development, opportunities for women and youths, increased income, increased markets for agricultural products, all of which is reflected in an improvement in their standards of living.

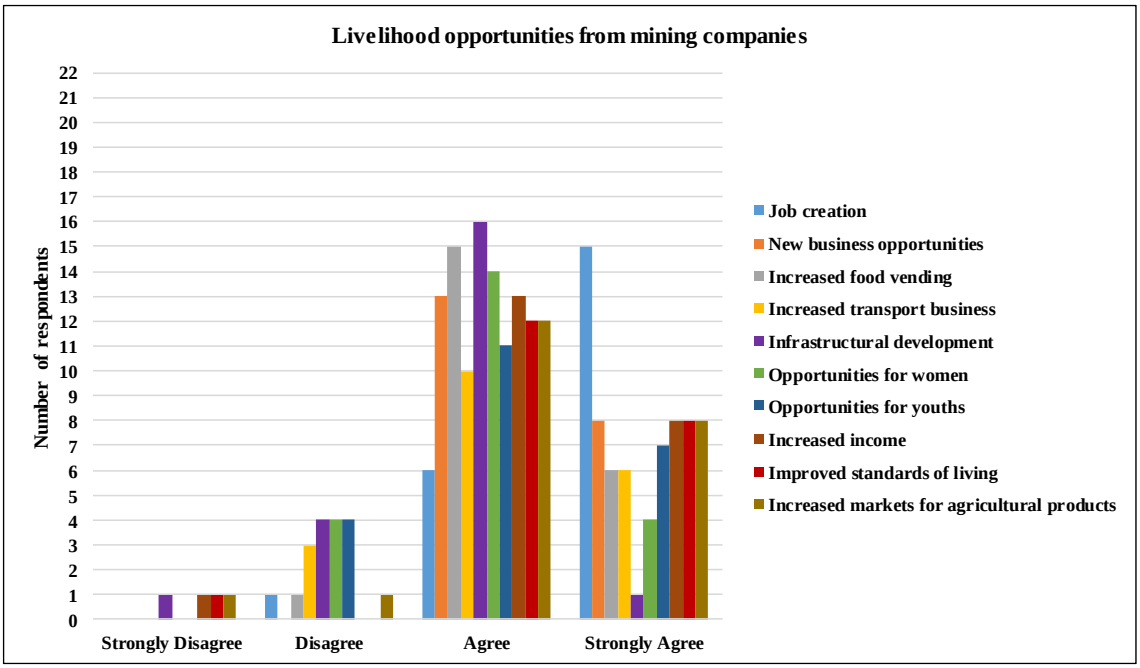


Fig. 4 Clustered columnar chart of livelihood opportunities from mining companies.

4.4 ENVIRONMENTAL IMPACTS FROM MINING COMPANIES.

Results of the interviews on the environmental impacts from mining companies are given in Section D of the data set (Appendix 3) and presented graphically in the clustered columnar chart in Figure 5.

13 respondents agree that mining operations in the vicinity of their communities led to the loss of land and homes. Except for that, a majority of the respondents disagree that mining operations caused any loss of livestock or vegetation, water, soil and air pollution, nor did mining operations cause any reduction to access to water.

The mining companies that operate in the villages of Ranobe and Benenitra are still at their exploration stages. Although far advanced in its development, Base Toliara in Ranobe has not yet started any production. It is often difficult to evaluate the environmental impacts of mining operations at this stage, as exploration activities usually take place on the surface without significant disturbance to the environment.

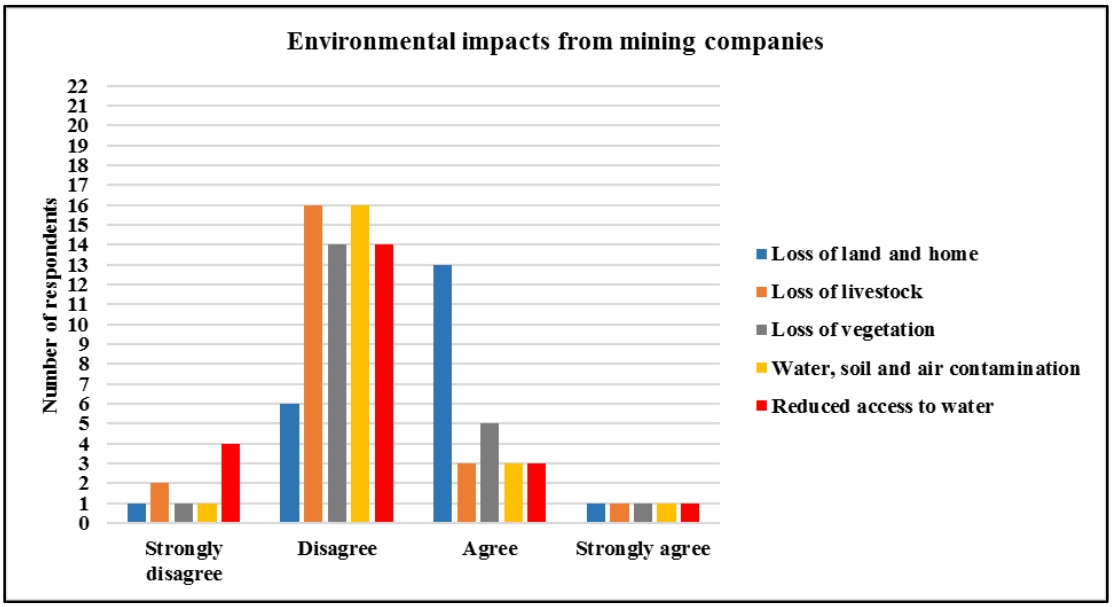


Fig. 5 Clustered columnar chart of environmental impacts from mining companies.

CHAPTER 5 DISCUSSION AND CONCLUSION.

5.1 SUMMARY AND CONCLUSION.

Many communities around the world have benefited and continue to benefit from mining activities in terms of job creation, business opportunities, and infrastructural development (Hilson, 2002), thus leading to better standards of living for the local communities, which are the main objectives of the UN SDGs. At the same time, other communities have experience the phenomenon of resource curse, whereby mining activities resulted in environmental issues and protracted community-level conflicts with mining companies, such as in a case of Wassa west District in Ghana (Taabazuing et al., 2012). In some cases, the conflict even escalated to violence. The social and economic welfare of the local communities are usually at the center of such conflicts. Some mining communities have complained about the lack of access to land or water, land usage or ownership, environmental effects, social and cultural upheaval, violations of human rights, unequal resource distribution, and underdevelopment of the local community Zandvliet and Anderson (2009). In fact, Calvano (2008) refers to the interaction between the local population and large-scale mining companies as a battleground.

The severity of the conflict is greatest in developing countries, where little government intervention occurs, regulatory frameworks are frequently deficient, and less efficient support programs for community and industrial groups are in place (Hilson, 2002). The situation is made worse by the fact that some governments of developing countries, such as is the case of Madagascar, support mining companies on important land use issues over the people.

As seen in the literature review, this study found that the government of Madagascar does not address fundamental issues including the livelihoods of the local population, environmental damage, poverty, and underdevelopment of indigenous communities in

which mining operations take place. Although some occupational health and safety legislation is in place, mining companies are not required to fund immediate and long-term programs for health and education. This means that policies number 1 and 3 of the UN SDGs are not enforced. There is little oversight of or enforcement of occupational health and safety laws, and violations are not punished. Businesses are not compelled to assist long-term economic growth or non-mine business development prospects.

ASM remains overwhelmingly informal in Madagascar, with several social and environmental issues that need to be addressed and implications for government revenues. Child labour and unsafe working conditions are still widespread in the country, which is against the UN SDG number 3.

It appears therefore that, while mining companies are somewhat engaged, and to some extent, committed in CSR, and showing interest in developing the local communities where they operate, the government of Madagascar is lagging behind with the implementation of appropriate social protection systems to achieve the UN SDGs by the year 2030.

5.5 RECOMMENDATIONS AND SUGGESTIONS.

The role of mining companies in sustainable development is changing from a business perspective, as the social and environmental responsibilities of mining companies are increasing owing to changes in how people throughout the world see business. Companies all across the world are more and more realizing how crucial it is to address CSR. Shell, Novo Nordisk, WMC, and Eskom in South Africa are a few companies that have emerged as industry leaders in sustainability reporting (Elking-ton et al., 2001). CSR goes beyond charitable giving, community investment, and the reduction of environmental effects.

Due to South Africa's past and current conditions, there is a high emphasis on Corporate Social Investment (CSI), hence this argument is particularly significant in the South African context. Companies must understand that CSR encompasses not only how a portion of after-tax profit is used for social development, but also how profits are generated in the first place.

CSR must be included into a company's core operations and decision-making processes in order to embrace the economic, social, and environmental components of sustainability in a holistic manner and to offer the most development benefit. Therefore, senior management needs to view sustainability as a primary responsibility. CSR calls for a mentality change away from conflict and toward positive engagement. This is a crucial component of the new approach that many NGOs have adopted, where they are willing to collaborate with industry to accomplish shared goals. Therefore, companies starting along a responsible route will be surprised who might come to their aid (Percy, 2000: 202).

5.6 RESEARCH LIMITATIONS.

This study had the following limitations.

Access to survey participants. The interviews were conducted face-to-face with the respondents overseas (in Madagascar). The localities of most participants who were expected to take part were too remote and access was very difficult due to little or no road networks.

Timing. The interviews were conducted during the Christmas break when most people were on holiday, thus limiting the number of participants that could take part in the interviews.

Funding. The entire study was self-funded by the student. Financial limitations meant limited resources for travels to the remote areas of Madagascar.

5.7 SUGGESTIONS FOR FUTURE RESEARCH.

The influence of the developing field of socially responsible investing (SRI), including indexes like the Dow Jones Sustainability Index and the FTSE4Good, and rising demands set by fund managers and major institutional investors, on the mining sector will be a key area of research in the future. According to Hutton et al. (1998), there is no question that SRI is in the development phase of its life cycle. For mining corporations, this should have significant ramifications.

The business case for CSR in mining is still vague, ambiguous, and full of assumptions. Price Waterhouse Coopers conducted an international survey of 32 major mining corporations for the Mining, Minerals and Sustainable Development Project (MMSD & PWC) in 2001. The results showed that: "Three-quarters of respondents stated that enhanced shareholder value and survival of the business in the long term were the key factors influencing their company to address sustainable development." Meanwhile, approximately 80% of organizations saw the "ability to link sustainable development to financial success" as one of the major barriers to internalizing the idea in their organization. Establishing a better understanding of how corporate social performance will affect financial performance is therefore one of the key challenges in the next few years, for both business and research.

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