

REPUBLIC OF NAMIBIA

OFFICE OF THE
PRESIDENT

NATIONAL PLANNING
COMMISSION

The Impact of Mining sector to the Namibia economy

“Assessing socio-economic and environmental effects”

2021

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EXECUTIVE SUMMARY

The mining sector plays a key role in socio-economic development of many resource-rich economies. In Namibia, the sector has been and remains the backbone of the economy as reflected by its average annual economic growth, contribution to GDP, job creation, income generation, and a key source of government fiscal receipts and foreign exchange earnings, among others. The sector has also led to the establishment of towns while remaining committed to the achievement of national goals of poverty reduction, employment creation and skills development among others. Notwithstanding the foregoing, however, the sector remains susceptible to developments in the international commodity markets and prices especially for commodities it is richly endowed with i.e. diamonds, uranium, copper, zinc etc.

The mining sector's role in socio-economic development is documented in secondary data sources i.e. national accounts, fiscal data, chamber of mines annual reviews etc., however, at the micro-level, limited information is available regarding the mining sector's socio-economic impact. This report sought to cover this existing gap in literature through a desk study approach for the post-independence period (1990 to 2018). The primary data collection was done through a convenience (non-probability) sampling approach to communities (employees and community members) living around different mining towns. To this end, the aims of the study were two-fold: (i) to assess the mining sector's contribution to society beyond the ordinary economic value added and economic growth and (ii) assess the challenges of mining. The primary data collected was then analysed using the Statistical Package for the Social and Sciences (SPSS) software.

Some of the findings of the study are as follows:

- Namibia's mining sector is mainly composed of diamond, uranium, metal ores and other mining¹ and quarrying sub-sectors. **The mining sector's average annual contribution to GDP during the review period was 11.1%.** However, it has remained constant between the start and end of the review period, from 14.9% in 1990 to 14.0% in 2018.
- **The mining sector has not transformed significantly from extraction and export of minerals in their raw materials to increased value addition.** Value addition has been done on Gold (gold bars); Diamonds (diamond polishing and processing); Copper (copper smelting – copper cathodes); Zinc (Zinc processing leading to 99.995% pure zinc); dimension stones (processing of marbles and granites into table toppers and tiles); Coarse salt (refined salt); and Cement.
- **The mining sector has on average been a key growth driver as it registered strong growth.** To this end, the sector recorded a strong average annual growth of 13.9% from 1981 to 2018

¹ Manganese, fluorspar, copper, zinc, lead, gold, coal, limestone used in the production of cement

driven by robust growth in all mining sub-sectors. However, the sector's growth has been marred by volatilities.

- **The mining sector continued being an employment creator.** Although the sector is capital intensive in nature, it employed 1.7% of the total employed persons in 2018. The sector suffered retrenchments in 2018 owing to volatile mineral commodity markets and low commodity prices. Yet, more employment and revenue can be created with intensified value addition and beneficiation in the sector.
- **Ownership of different mines is largely dominated by foreign companies** who mainly extract and export such minerals to external markets. Ownership of all mines combined is skewed more towards foreign (88.1%) than Namibian (local – only 11.9%).
- **Namibia's average corporate tax rate is found to be high by international standards.** Most countries generally impose an average of 30% corporate tax (i.e. Chile: 15%; Argentina: 35%; and Ghana: 35%).
- **Mining companies have made significant corporate social investments to communities over the years.** In view of this, mining companies have contributed about N\$ 537.9 billion between 2013 and 2018 to improve the living condition of local communities. However, communities although appreciating the aforementioned, are of the view that more could still be done.
- **Mining companies in Namibia face different impediments in the conduct of their mining activities,** such as scarcity of water and high costs of electricity, diminishing resources and unskilled labour force, coupled with external low commodity prices, exchange rates as well as high transportation/ fuel costs.
- **Notwithstanding the positive contribution of the mining sector to socio-economic development, however, there are also negative aspects** such as environmental degradation, emissions of chemicals which lead to contamination of the area, noise pollution and underground vibrations as a result of blasting, exploitation of workers and exposure to diseases i.e. asthma and cancer.
- **Moreover, despite emphasis of rehabilitation in the minerals and environmental acts, there appears to be non-compliance** in some instances as mining sites are often left abandoned especially in the dimension stone industry.

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Acronyms

CoM:	Chamber of Mines of Namibia
CSR:	Corporate Social responsibility
EDF:	Erongo Development Foundation
EPL:	Exclusive Prospecting Licence
EPZ:	Export Processing Zone
FDI:	Foreign Direct Investment
GDP:	Gross Domestic Product
IDC:	Industrial Development Corporation
IGF:	Intergovernmental Forum
IP:	Industrial Policy
ISO:	International Organization for Standardization
JVAC:	Joint Value Addition Committee
MET:	Ministry of Environment and Tourism
MME:	Ministry of Mines and Energy
MoF	Ministry of Finance
MWU:	Mine Workers Union
NCCI:	Namibia Chamber of Commerce and industry
NDPs:	National Development Plans
NEPL:	Non-Exclusive Prospecting Licence
NIMT:	Namibia Institute of Mining and Technology
NIPA:	Namibia Investment Promotion Act
NPC:	National Planning Commission
NSA:	Namibia Statistics Agency
SADC:	Southern Africa Development Community
SPSS:	Statistical Package for the Social and Sciences
TCL:	Tsumeb Corporation Limited
UNCTAD:	United Nations Conference on Trade and Development
UNFCCC:	United Nations Framework for Climate Change Council
WNA:	World Nuclear Association

1. INTRODUCTION

Mining sector plays a vital role in economic development of many countries. In Namibia, mining has been the backbone of the economy since time-immemorial in view of having a positive impact on the economy measured through job creation and income generation, among others. Mining is an important source of government fiscal receipt and source of foreign exchange (Walser, 2000). Total job creation in the sector has been volatile due to fluctuation in commodity prices and technological advancement.

The total revenue to government from mining (taxes & royalties) in 2018 amounted to N\$5.18 billion, according to the Namibia Chambers of Mines (CoM) Annual Review 2018. Mining in Namibia, just like in other countries, has led to the establishment of Towns i.e. Oranjemund, Arandis and others. The mining sector is also committed to achieving national goals in terms of skills development for the mining sector through the establishment of vocational centre such as Namibia Institute of Mining and Technology (NIMT).

The mining sector in Namibia constitute of diamond mining, uranium mining, metal ores and other mining² and quarrying as per National Accounts framework. The sector has been the most influential in 1980 having contributed 33.6% to GDP. The average contribution of the mining sector to GDP between 1990 and 2018 is significant and favourably standing at 11.1%.

The post-independence period (between 1990 and 2018) saw the mining sector record an annual average growth of 5.0%. The sector contracted by 4.7% on average between 2014 and 2016 mainly due to less demand for mining products and low commodity prices for minerals that Namibia has rich endowments of. However, the growth rate for 2018 are positive at 22.0% from 13.3% in 2017.

Some of Namibia's peers within the Southern African Development Community (SADC) region have similarly been experiencing mining sector growth and contribution to GDP declines. For example, in Botswana, the mining sector growth contracted by 9.6 and 3.7% in 2015 and 2016, respectively. The decline in 2016 was due to closure of the copper/nickel mines during the fourth quarter of 2016 and therefore the sector contributed 20% to Gross National Output in 2016 from 17.7% in 2015 (STatsBots, 2017). Similarly, in South Africa, the mining sector's contribution-to-GDP has also decreased from double-digit (21.0%) in 1980 to 8.0% in 2016. Though the sector seems to slowly loose its shine in the region, it is still the main employer in South Africa (StatsSA, 2017) and contributor to National income in many African countries.

In 2018, Namibia was ranked as the 5th biggest Uranium producer in the world by the World Nuclear Association (WNA). However, growth in the Uranium sector has been very slow due to weak international uranium prices and weak global demand which has led to slow production and closure of some mines. Consequently, the mining sector suffered 822 retrenchments comprising

² Manganese, fluorspar, copper, zinc, lead, gold, coal, limestone used in the production of cement

permanent, temporary and contract workers attributable to volatile mineral commodity markets in the second half of 2018 and a stagnantly low uranium price in the last nine years (CoM, 2018). Of those retrenchments, more than 300 permanent workers and 300 contract workers were retrenched by Langer Heinrich Uranium mine alone. Against the backdrop of depressed uranium prices, Langer Heinrich Uranium mine was placed on care and maintenance in 2018. Since the nuclear disaster in 2011, the uranium market has not recovered and the average spot price for 2018 is the lowest in 15 years (Mckinnon, 2018).

Being a small, open and commodity-based economy, Namibia is susceptible to global economic outturns (booms and recessions) due to volatile commodity prices. Therefore, the dependency on the mining sector has been a topic of concern to policy makers given the fact that in most instances the minerals are exported in their raw form, without any value addition. To this end, there have been several attempts by the Namibian government to diversify the economy away from mining dependency and promote value addition as enshrined in the mineral beneficiation policy. However, at present, only a few minerals have value addition in Namibia, namely; Gold (B2Gold – gold bars); Diamonds (diamond polishing and processing); Copper (copper smelting – copper cathodes) and Zinc (Zinc processing, 99.9% zinc). Another reason to diversify the economy has to do with environmental sustainability by virtue of Namibia's membership to the United Nations Framework for Climate Change Council (UNFCCC) for which it is obliged to comply to the rules of sustainable environmental practices and preservation. From the policy point of view, the mining sector is governed by quite several legislations discussed under section 5.7.

2. OBJECTIVES

Using available secondary statistics from Namibia Statistics Agency, Ministry of Finance, Chamber of Mines and primary data collected from interviews with the mining communities³, this paper explored the impact of the mining sector in Namibia with specific emphasis on socio-economic effects. The aims of this paper were two-fold: firstly, to assess the mining sector's contribution to society beyond the ordinary economic value added as per the national accounts and secondly, assess the challenges of mining. It reviewed policy frameworks and strategies governing the mining sector in Namibia. Against the backdrop that a thorough study detailing the impact of mining sector to socio-economic development in Namibia since independence has not been done, this study is an attempt to bridge this literature gap and provide enrichment to the current literature on the impact of the mining sector in Namibia. In addition, the study will also try to provide practical policy recommendations to address socio economic consequences of mining in line with the goals of promoting sustainable development, that is, increased economic growth, income equality, and employment etc.

³ Includes mine workers and people living in the mining town

3. METHODOLOGY

This paper was a desk study and adopted both secondary and primary data sources. The primary data was collected using interviews in selected mines from eight towns⁴ where mining activities are dominant in order to assess socio economic profile of the respondents, benefits and challenges in the surrounding mines. Both mining employees and the surrounding community were interviewed as being the most beneficiaries of proceeds from mining and affected people. The questionnaires were self-administered by handing questionnaires to community members to complete and return them to the researcher. Secondary data was collected from official reports to analyse the trend using available annual statistics concerning mining sector performance from 1990 to 2018. Stakeholders especially the Chamber of Mines of Namibia (CoM) and the Ministry of Mines and Energy (MME) were interviewed for further enrichment of the paper. Participant's anonymity was stated prior to the interviews and maintained throughout the process. Given the fact that the total population of the people that live in the surrounding mining areas was unknown, the sample of the interviewed people was not based on the total population.

A convenience (non-probability) sampling was pursued where respondents were chosen because of their convenient accessibility and proximity to the researchers. Thus, 20 employees were to be interviewed from each selected mine and 40 community members from the surrounding areas. A total of about 520 people were targeted to be interviewed from the 10 selected mines in 8 towns. Out of this target, 453 people responded thereby giving a response rate of 87.1%. The data was then analysed using the Statistical Package for the Social and Sciences (SPSS) software.

Another separate interview was done with the Dimension stone industry around Karibib district as a request from the Mining Workers Union (MWU). Three quarries were visited, and 20 employees were interviewed from each quarry and 40 community members. It should be noted that the views expressed in this paper are those of the community not those of the authors or institution in this case NPC.

4. STUDY LIMITATIONS

The study had shortcomings especially on data availability. Although the study period was from 1990 to 2018, the paper could not analyse the same period for all variables due to data unavailability, therefore some graphs show a shorter time series as compared to others. Also, disaggregation of certain minerals i.e. uranium and metal ores, in the national accounts only reflect from the year 2000. Another constraint is that not all mines management were willing to answer the questions that's why the sections on Mines background are not carrying the same content for all mines.

⁴ Tsumeb, Otavi, Otjiwarongo, Swakopmund, Arandis, Karibib, Oranjemund & Roshpinah.

5. MINING IN NAMIBIA: A SOCIO-ECONOMIC BACKDROP

Mining continues to be the backbone in terms of income generation, employment creation, contribution to government receipts and source of foreign direct investments for most developing economies including the SADC region. According to Walser (2000), mining plays a vital role in the economic development of many countries; it has both social and economic benefits to the communities. Its impact is measured through employment opportunities created and income generation which are necessary conditions for the achievement of socio-economic development. However, mining should not only be considered from one perspective of being a source of employment and income generation as often it presents social, environmental and economic challenges on the other hand.

Mining operations has, unintended, adverse environmental impacts such as water contamination, exposure of human and wildlife to toxic materials, loss of habitats (plants and animals), air pollution, sound pollution as well as explosives, amongst others. These impacts may lead to economic losses at both local and national levels as mining operations has the potential to deplete water resources and degrade eco-tourism attractions. With respect to this, the Namibian government is committed to protecting the environment and welfare of its people as well as the maintenance of the ecosystem through its legislative and regulatory frameworks.

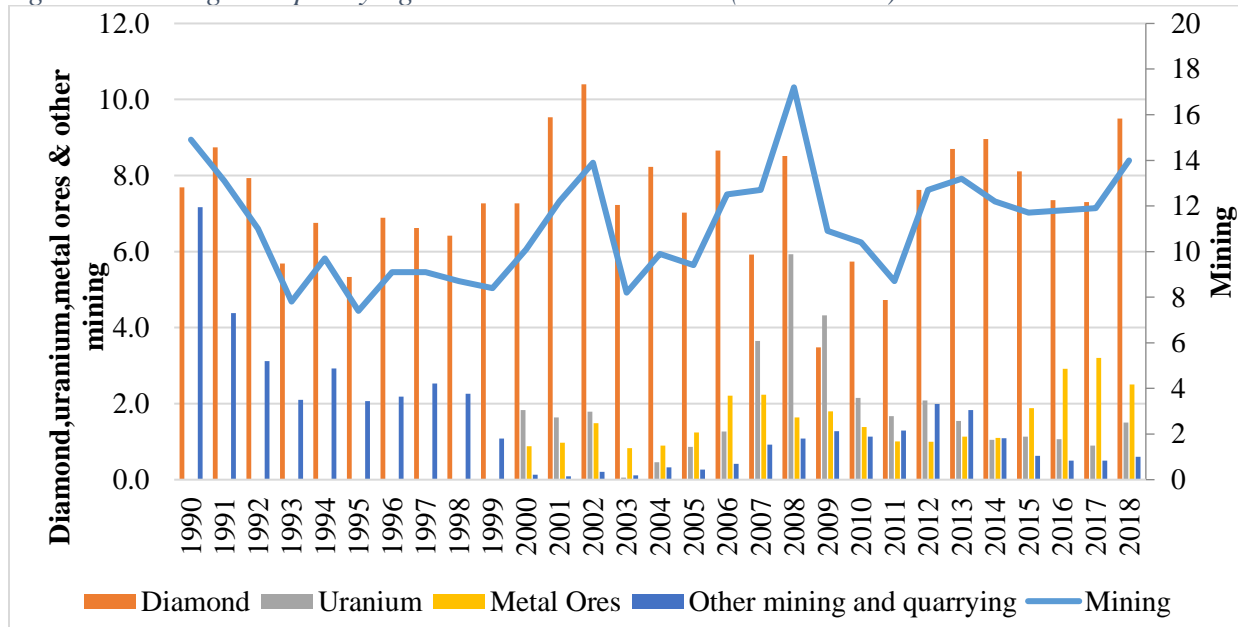
Although mining comes with its challenges, the sector has continued to attract more investment in a form of contracts with foreign mining companies. Namibia is viewed as an attractive mining and exploration investment destination in Africa, as such; foreign mining companies have invested in the mining sector. In 2017, Namibia was ranked the 6th from 9th position it occupied in 2016 out of 15 African countries as the most attractive investment destination in Africa alongside South Africa which took 4th position (Fraser Institute, 2017).

5.1 Mining contribution to GDP

It is worthwhile to note that from 1990 up to 1999, the mining sector was disaggregated in only two sub-sectors, namely: diamond mining, and other mining and quarrying. Thus, disaggregation of other sub-sectors i.e. uranium and metal ores were only done from 2000. During the post-independence period (from 1990 to 2018), the mining sector remained a significant contributor to GDP of all the sectors in the primary industries with an average contribution of 11.1%. Nonetheless, the sector's average annual contribution to GDP has remained constant, from 14.9% in 1990 to 14.0% in 2018. The mining sector has remained the bedrock of the Namibian economy in both good and difficult times and as such in the last 2 years of the review period (2017 and 2018) where the major sector contributors to GDP have struggled, mining has continued to maintain its significant contribution.

During the first decade of post-independence (from 1990 to 2000), the diamond mining and other mining and quarrying sub sectors remained the most significant GDP contributors, having contributed 7.0 and 2.7%, correspondingly. From 2000 to 2018, uranium became the second contributor to GDP (1.8%) after diamond mining (7.6%). Metal ores, on the other hand, remained the lowest contributor to GDP with an average of 1.0% over the post-independence period (1990 to 2018). Due to the country’s abundant mineral resources, the mining sector has potential for greater social and economic development through value addition as this will improve state revenue.

Figure 1: Mining and quarrying % contribution to GDP (1990- 2018)⁵



Data source: Namibia Statistics Agency (2018)

5.2 Mining contribution to Employment

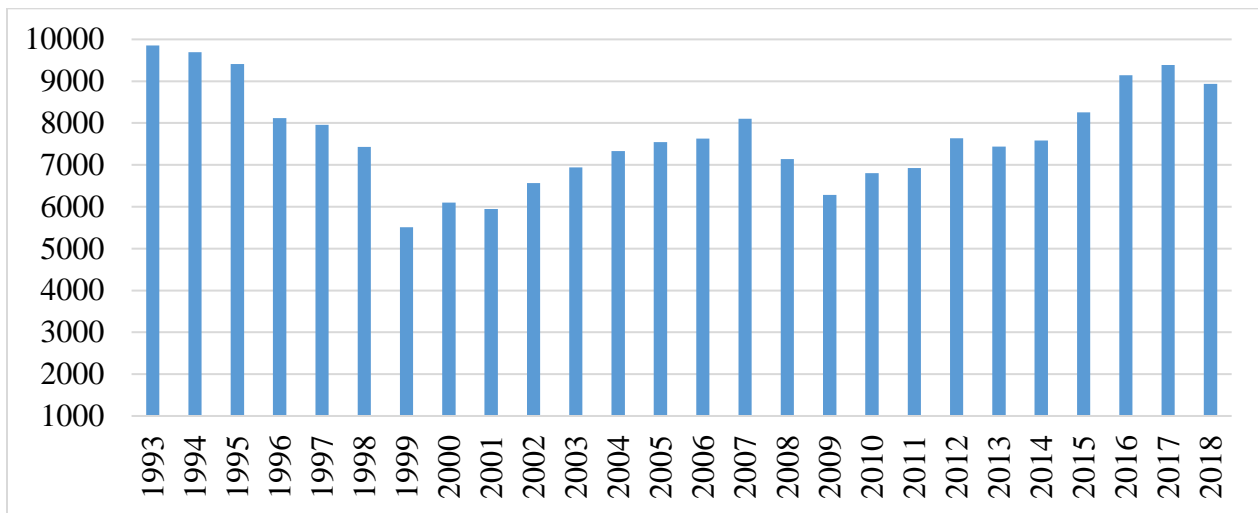
Statistics on permanent employment were available from the Chamber of Mines (CoM) and the Namibia Labour Force Survey (NLFS). However, statistics from the latter had many gaps hence those from the CoM were rather adopted. The statistics from the two different sources can be found on the Annexure for comparison.

The mining sector recorded a decrease in permanent employment from 9854 in 1993 to 8940 in 2018. The mining sector’s contribution to national employment has been on an increasing trajectory from 2000 up to 2007. However, employment in the mining sector dropped in 2008 and 2009 on the back of the global financial crisis and reduced commodity prices during that period. Thereafter, employment in the sector picked up from 2010 to 2017 ascribed to increased mining production

⁵ Right axis (Mining), left axis (Diamond, uranium, metal ores and other mining & quarrying)

activities in the country (at Husab, B2Gold, Tschudi) which came on board. The sector employed 9390 and 8940 people in 2017 and 2018, in that order (Chamber of Mines, 2018). The recent Labour Force Survey 2018 indicates that mining employs 1.7% of the total employed persons (NSA, 2019). However, the sector suffered retrenchments in 2018 due to volatile mineral commodity markets and low uranium prices. Although the mining sector is not the biggest employer in the economy, it is significant in terms of its contribution to the livelihood of the Namibian people. Remuneration-wise, the sector has seen an increased average total wage bill from N\$2.5 billion in 2011 to N\$6.1 billion in 2018.

Figure 2: Permanent Employment in the mining sector

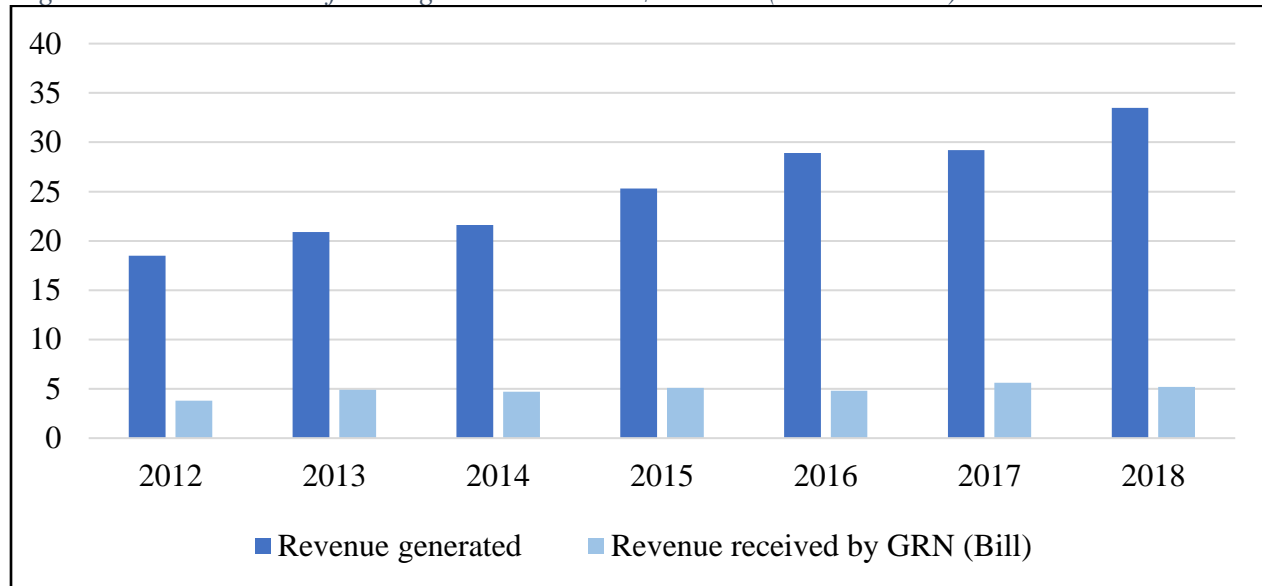


Data source: The Chamber of Mines of Namibia 2018

5.3 Mining contribution to Government Revenue Collection

The revenue generated from the mining sector has been on an increase since 2012 up to 2018 while total revenue to government has remained almost constant over the same period. The sector generated about N\$ 33.5 billion in 2018 relative to N\$ 18.5 billion in 2012 which is 81.8% growth in revenue generated over this period. In 2018, the sector contributed about N\$ 5.18 billion to total state revenue as compared to N\$ 3.8 billion in 2012 received by government. Noteworthy is that royalties and export levy to government are paid based on production thus when production decreases so do revenue to government. Corporate tax, on the other hand, is based on profits from mining companies after all their expenses are deducted. Thus, total government revenue is not proportional to the total revenue earned.

Figure 3: Contribution of mining to revenue in N\$ billions (2012 to 2018)



Source: *The Chamber of Mines of Namibia (2018)*

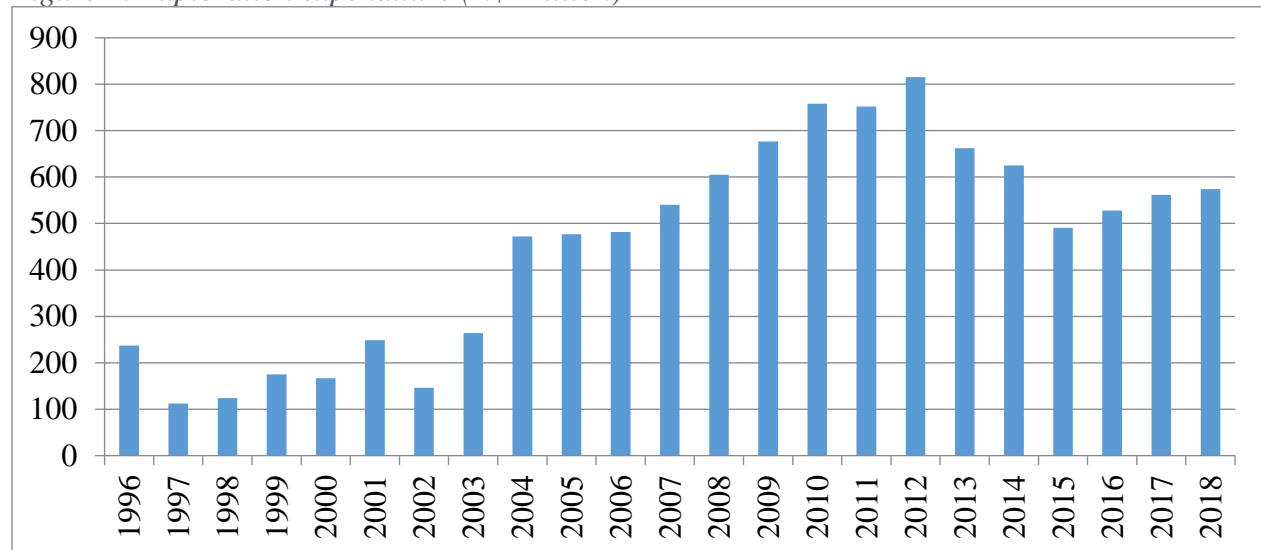
5.4 Mining exploration

Mineral exploration is the first stage in the process of mineral extraction and supply. Increase in global mining exploration is due to increasing demand for metals, growth of industrial output, greatly improved geological knowledge, exploration technology and attractive investment environment among others (Gandhi & Sarkar, 2016). Roderick (2010) states that successful mineral exploration and development is believed to lead to increased jobs, new infrastructures, economic progression, increased government revenue that, in turn can be re-invested into the economy.

Insufficient mining exploration and investment constrains mining development, therefore mining exploration is encouraged so that the sector can contribute more to the economy. In Namibia, mining exploration is mainly done by the private sector focusing on base and rare metals (copper, lead, zinc, etc.), Precious stones (diamonds), precious metals (gold), natural gas and Nuclear Fuel (Uranium). Exploration spending in Namibia increased multi-fold from the minimum of N\$112 Million in 1997 to N\$574 million in 2018. Since 1995, the highest exploration figures in Namibia were recorded in 2012 (N\$815 Million). A peak in exploration expenditure in 2012, reflect a massive increase in exploration for Namdeb mine, Swakop Uranium, Ohorongo cement and Otjikoto gold projects. The current declining trend shows continuing weakness in mineral exploration. Since 2012, exploration expenditure has dropped as a result of the shift from exploration to mine development and depressed commodity prices particularly in the Uranium projects as well as deteriorating investment climate (Chamber of Mines of Namibia, 2018). Exploration expenditure for 2018 stood at N\$574 million from N\$562 million in 2017,

representing a 2.1% increase. The observed improvement in exploration statistics since 2016 figure is due to improved global market conditions since mid-2016 which fuelled investor’s enthusiasm.

Figure 4: Exploration expenditure (N\$ Million)



Data source: The Chamber of Mines of Namibia (2019)

5.5 Mining royalties and taxes

According to Gajigo et al. (2012), a royalty is a levy on mineral production that is assessed on companies in the mining industry. It is assessed on the quantity of mineral produced and the corresponding value which is determined by the price of the mineral commodity. On the other hand, an export levy is a tax on export of unprocessed minerals while corporate tax is applied to company profits.

In Namibia, the collection of royalties is administered by the Ministry of Mines and Energy (MME) which is then payable to Ministry of Finance (MoF). The table below shows royalty rates for different types of minerals in Namibia from which is it apparent that the diamond mining sector is charged 55.0% on corporate tax and 10.0% royalty of gross sales while the non-diamond mining companies are charged 37.5% corporate tax rate and less than 5% royalty of gross sales (Namibia Chamber of Mines, 2019).

LEXAfrica (2019) argues that Namibia’s average rate of 37.5% of corporate tax is high by international standards given that most countries impose an average of 30% (i.e. Chile: 15%; Argentina: 35%; and Ghana: 35%). The high corporate tax rate can either deter prospective investors from investing in Namibia’s mining sector or lead to the early closure of marginal mines and consequently loss of employment.

Table 1: Current royalty and tax rates by mineral category

Tax payable	Mineral royalty rate (%)
Mineral Royalty Rates	Precious Stones (Diamond) mining: 10%
	Dimension Stone: 5% on all unprocessed stone blocks
	Precious metals, base & rare: 3%
	Nuclear fuel minerals (Uranium): 3%
	Semi-precious stones, industrial & nonnuclear fuel minerals: 2%
Corporate Income Tax	Diamond mining: 55%
	Other Minerals: 37.5%
	Non-mining activities: 40%
Export Levy	Raw minerals (5%)

Source: Ministry of Mines & Energy

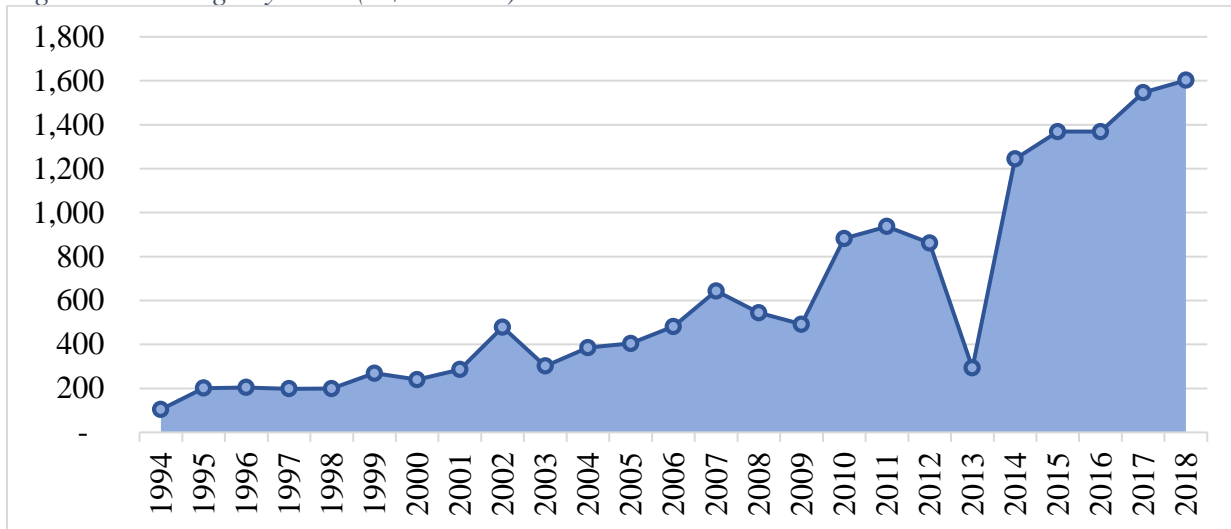
In comparison with SADC peers, Africa’s second largest copper producer, Zambia increased royalties of 4.0% to 6.0% and introduced a new 10.0% tax when the price of copper exceeds US\$7500 per tonnage (Mfula, 2019). Corporate income tax rate applicable on mineral processing companies was revised from 30.0% to 35.0% in 2018.

In Botswana, the royalty rate payable shall be the following percentages of gross market value: Precious stones (10.0%), Precious metals (5.0%) and other minerals or mineral products (3.0%). For non-resident companies, the standard corporate tax rate is 30.0%. Mining profits⁶ are taxed according to a specific formula, whereas diamond mining is usually taxed in terms of an agreement with the Government of Botswana (Becker, 2019).

Namibia has observed an increase in mineral royalties since independence in 1990. Between 1994 and 2006 diamond sales accounted for 100.0% of all royalties collected. From 2007, the share for diamond decreased as a result of royalties from other minerals which increased. In 2008 Cabinet approved the amendment of Section 114 to the Mineral Act to make royalties by mining companies other than diamond companies mandatory (Weidlich, 2008). On average, the share of royalties from diamond exports stood at 72% between 2007 and 2018. A decline in mineral royalties in 2013 was reflected by 84% decrease in diamond royalties because of a reduction in diamond sales. In the same year, royalties from diamonds accounted for 36.8% while 65.2% was from other (non-diamond) mineral royalties. Between 1994 and 2018, the mining sector paid a total of N\$15.5 billion in royalties which translates to an average of N\$622 million a year.

⁶ Other than profits from diamond mining

Figure 5: Mining royalties (N\$ Million)

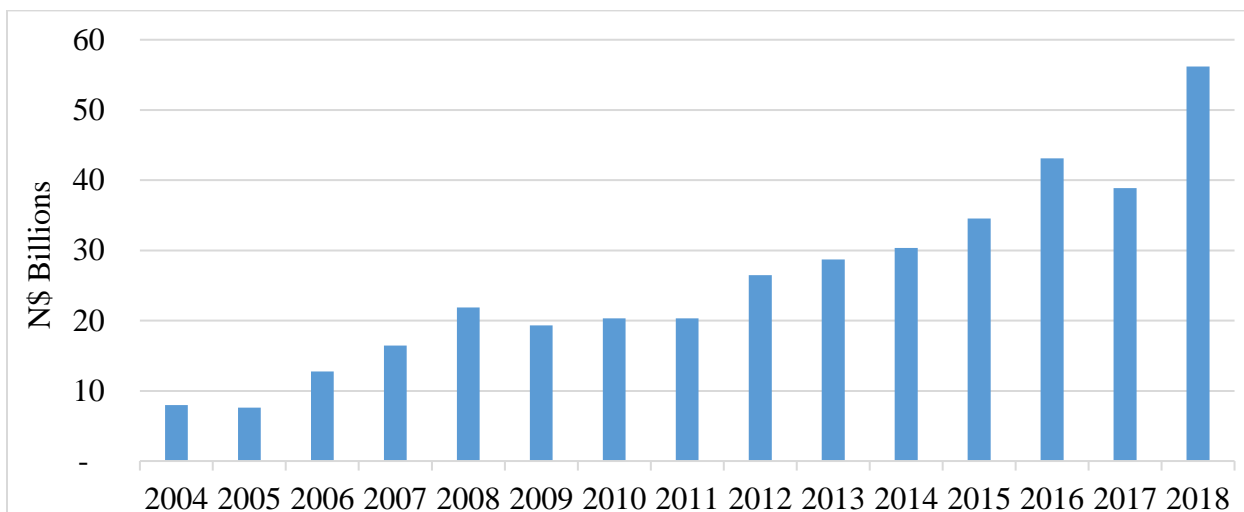


Data source: Ministry of Finance 2018

5.6 Exports of minerals

Namibia’s mining exports to the rest of the world shows an increasing trend over the years even though most of its minerals are exported with minimal or no value addition. The mineral beneficiation strategy for Namibia advocates for value addition of minerals to final consumer products in order to benefit more from the mineral resources throughout the value chain. Namibia’s mineral exports generated about N\$ 56.2 billion in 2018 as compared to N\$ 7.9 billion in 2004 attributed to increase in mining activities. On average the sector generated N\$ 25.7 billion between 2004 and 2018.

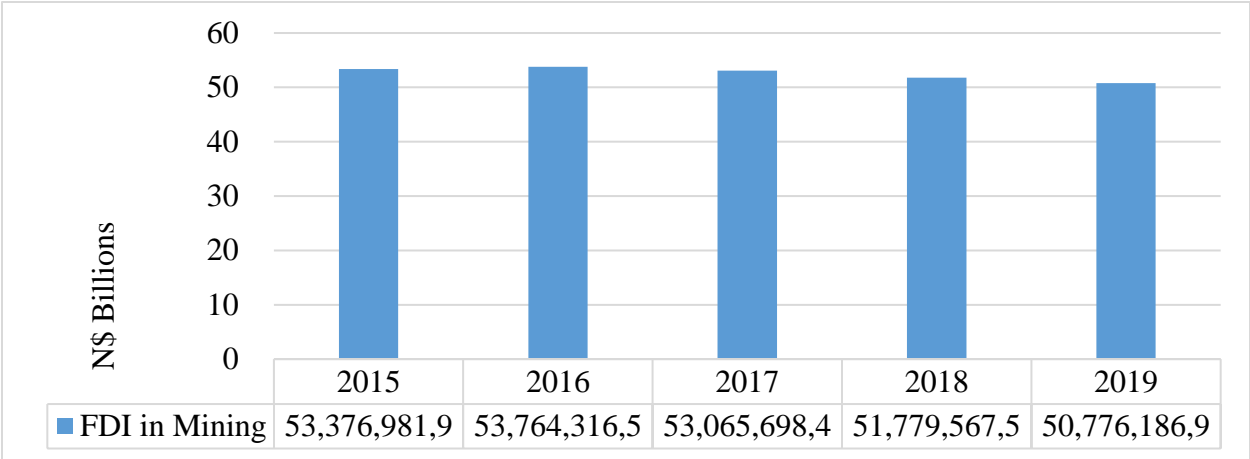
Figure 6: Exports of mineral products



Data source: Namibia Statistics Agency 2019

Most developing countries are working towards growing their economies through attraction of foreign direct investment as it brings about advanced technology and employment creation. According to the Foreign Investment Act, 1990, foreign direct investment in Namibia is defined as any proposed investment by a foreign national of assets with not less than 10% of the total share of capital venture or that the foreign national holds a management interest in the day to day running of the business concern (UNCTAD, 2006). The decrease was attributed to low reinvested earnings and reduced borrowing by FDI enterprises. Looking at the trend (2015 to 2019), foreign direct investment in the mining sector remains almost flat over the years. Foreign direct investment averaged N\$ 52.5 billion between 2015 and 2019 respectively. The main investors in the mining sector in Namibia is South Africa, United Kingdom, United States and Germany.

Figure 7: Foreign Direct Investment



Source: Bank of Namibia (2019)

5.7 Legislative and Regulatory Framework

After independence, the Namibian government enacted several laws and policies to protect the ecosystem, manage mining operations and mitigate its adverse impact on the environment, people and wildlife (Odendaal, undated). In terms of ensuring the sustainable contribution of the mining sector to socio-economic development in Namibia. Among the enacted legislations to govern the mining sector in Namibia are:

The **Minerals (Prospecting and Mining) Act, 1992 (Act no. 33 of 1992)** which was amended in 2008 to make provision for the introduction of royalties of up to 5% of gross sales. The Act stipulates that no persons shall carry any reconnaissance, prospecting or mining operations in Namibia except in accordance with licenses granted. Moreover, Article 100 of the Namibian Constitution states that all-natural resources above and below the surface of the land are vested in the state unless otherwise legally owned.

Table 2: Mining licences and claims in Namibia

Licence type	Description	Duration	Renewable	Restrictions
Non-exclusive prospecting licence (NEPL)	Gives the right to prospect on any land for any mineral or group of minerals.	12 months	No	Anyone over the age of 18 can apply; non-transferable.
Mining claims	For Namibians mining on a small scale.	3years	Two-year extension, unlimited (Providing the claim is being worked on)	A maximum of 10 claims can be held at any one time. Available to Namibian citizens only.
Reconnaissance licence	Regional, mainly remote sensing exploration for identification of exploration targets	6 months	No	Not transferable.
Exclusive prospecting licence (EPL)	For an area of up to 1,000 km ² (100,000ha). Granted for a specific mineral or group of minerals.	3 years	Twice for two-year periods, with the area decreasing by 25 per cent with each renewal	Exclusive exploration rights to the land. (Renewals beyond seven years require special approval by the minister).
Mineral deposit retention licence	Allows exploration company to retain tenure on exclusive prospecting licence, mining licence or mining claim without any mining obligations.	5 years	2-year periods.	Must meet work and expenditure obligations and submit regular project reviews
Mining licence (ML)	Exclusive rights to the mining area.	25 years or life of mine	15-year periods.	Must demonstrate financial and technical ability to develop and operate a mine

Source: Adopted from IGF mining policy framework assessment 2018

The Minerals (Prospecting and Mining) Act provides the licensing procedures, the rights of holders, the administration and the ownership of minerals. In addition, the Act requires mining companies to provide detailed studies on the potential impact of the operations to the surrounding environment, how to mitigate them and rehabilitations plans after the closure of the mine. On his note, the **Environmental Management Act, 2007 (Act no. 7 of 2007)** was established to protect the welfare of the people by adopting policies aimed at the maintenance of ecosystems, ecological processes, utilization of living natural resources as well as provide measures against dumping or recycling of foreign nuclear and toxic wastes on Namibian territory. Government offers protection of the environment as it understands and recognizes its importance to ensure that the environment and its natural resources are not misused but rather are preserved for Namibia's future generation

to enjoy its benefits as well. Damage to the environment must be prevented by controlling the activities that lead to such damage. If Natural resources are over utilized or misused there will be no investment taking place in Namibia therefore government will lose out in terms of revenue generation. The Environmental Management Act is administered by the Ministry of Environment and Tourism (MET). However, the Mineral (prospecting and Mining) Act is outdated and mining closure is largely absent, including financial assurances for closure, in absence of mining closure regulations, chamber of mines produced a framework for mine closure which was endorsed by its members, but implementation is not legally mandated. There is reluctance to rehabilitate abandoned mines (IGF, 2018).

In the same vein, of protecting the environment the **National Heritage Act, 2004 (Act no. 27 of 2004)** was introduced for the protection and conservation of places and objects of heritage significance and the registration of such places and objects to establish a National Heritage Council (NHC); to establish a National Heritage Register; and to provide for incidental matters. The role of the NHC is report to parliament on conservation and protection of national heritage objects, sites, monuments and buildings as well as to ensure that identified national heritage is not alienated, damaged, destroyed or otherwise neglected.

The Pollution Control and Waste Management Bill: The Namibian Constitution does not provide for an environmental clause directly relevant to pollution. Namibia's legal framework dealing with pollution and waste Management is fragmented, partially outdated, incomplete and sectoral rather than integrated (Ruppel & Ruppel-Schlichting,2016). The Pollution Control and Waste Management Bill remains in draft form and should be finalized by parliament to become an act (IGF 2018). Pollution and wastes from mining activities have an effect on the community thus, the **Mine and Health Safety Regulations should be in place**, However there is no adequate Mine and Health Safety Regulations to regulate the mining industry in Namibia, safety regulations are outdated (Kiara, 2013). Members of the Safety Committee have been involved in drafting the new Mine Health and Safety Regulations which will replace the outdated Minerals Regulation of 1968. The drafting of the new regulation has been under multiple review which started in 2002 is not yet finalised it is in its 10th revision and still no results (IGF, 2018). Similarly, **the Nuclear Fuel Cycle Policy (2011)** also aims to ensure safety of Namibians and the environment in all operations related to nuclear fuel cycle. This policy was cognisant of the fact that mining industries had effects on the environment including contamination of soil and underground water resources which affects the surrounding population's health. The environmental and health impacts of mining on surrounding communities have thus been a major concern to the government and general public. Over the years, there has been significant social and environmental impacts due to unplanned mine closures in Namibia (Namibia Chamber of Mines, 2010).

The Minerals Development Fund of Namibia Act, 1996 (Act no. 19 of 1996) which establishes the Minerals Development Fund is another legislation that governs mining activities in Namibia. The main purpose of the fund is to safeguard the production and earning power of the mining sector through diversification, supporting the sector through improving national geological,

mineral data and expanding training facilities and programmes. The Minerals Development Fund offers financial support to small scale miners⁷.

The Diamond Act, 1999 (Act no. 13 of 1999) came into effect in April 2000 to provide control measures in respect of possession, the purchase and sale, processing and the import and export of rough diamonds in Namibia. The Diamond Act makes provision for the established of the Diamond Board which is tasked to deliver specialized advisory services to the Minister of Mines and Energy, efficiently promote Namibian diamonds both locally and globally as well as facilitate the protection and control of diamond resources as these resources are non-renewable.

The Foreign Investment Act, 1990 (Act no. 27 of 1990) of Namibia accounts for the operations of businesses and mining companies in Namibia. It provides investors with guarantees in respect of investment security, repatriation of capital, access to foreign currency and international arbitration in case of disputes. The Act was amended 3 years after Namibia's independence and gave birth to the Namibia Investment Centre within Ministry of Industrialization and Trade to facilitate the promotion and administration of foreign investments in Namibia. The Investment Centre under this Act had, as its core mandate, to ensure that Namibia is marketed as an investment hub in the region in order to attract foreign direct investment as well as local investment. The Foreign Investment Act of 1990 was amended and enacted in 2016 as the **Namibia Investment Promotion Act (NIPA) (Act No.9 of 2016)**. NIPA was meant to provide for reservation of certain economic sectors and business activities to certain categories of investors. Due to several legal drafting issues NIPA is being revised.

6. MAJOR MINES IN NAMIBIA

6.1 Ohorongo Cement (Pty) Ltd

Ohorongo Cement (limestone mining operation and cement manufacturing plant) started its production in 2010 and operates the largest and the first cement factory in Namibia, with a total initial investment of N\$2.5 billion. The Ohorongo Cement Plant is located on Farm Sargberg near Otavi in the Otjozondjupa Region. As of 2019, its lifespan is estimated at approximately 290 years. The company invested further into a composite cement plant and a third packaging line, and a new depot in Ondangwa, bringing the total investment in excess of N\$3 billion in 2019. Ohorongo strives to satisfy local demand as well as to export cement to neighbouring countries.

Ohorongo cement has a current production capacity in excess of one million tons of high-quality cement annually, for both local consumption and special projects, at the rate of 4,400 bags per hour. However, the company intends to slow down production to 500,000 tons per annum due to the current economic conditions mainly in the construction industry as well as the newly established competitor, Cheetah Cement plant. Encouragingly, all raw materials required for the production process (i.e. coal, iron ore, etc.) are sourced in Namibia and the entire value chain takes

⁷ Small scale miners are individuals who find and sell crystals and semi- precious stones alongside the road.

place within the country, which makes Ohorongo products a 100% proudly Namibian. Some of the major projects that were supplied and built with Ohorongo cement include: Neckertal Dam (biggest), Walvis Bay harbor container terminal, HKIA expansion project, B2Gold, Husab Uranium Mine, St Helena Island Airport, Angola, Botswana, etc. Approximately 10%, on average, has been exported annually to Botswana, Democratic Republic of Congo and Angola. Going forward, the company plans on expanding the export penetration percentage. Ohorongo has been benefitting from the Infant Industry Protection (IIP) and has been International Organization for Standardization (ISO) compliant.

In 2019, the company was employing 285 Namibians with only 1 expatriate. Due to the high electricity cost, Ohorongo cement has recently installed a 5 megawatts photovoltaic plant to replace the power supply from Nampower. Furthermore, the plant is replacing the use of coal with the plastic shreds from Rent-a-Drum as well as the pellets from the encroacher bush. In terms of local empowerment, Ohorongo have a joint programme with “build it” to train brick makers on brick making. The plant operates 24 hours a day, 7 days a week and 365 days a year continuously.

Table 3: Ohorongo cement-ownership

Ownership of mine	Origin / Ownership	Shareholding (%)
Schwenk Namibia	Germany	69.8
Development bank of Namibia	Namibia	11.7
Development Bank of South Africa	South Africa	4.2
Industrial Development Corporation	South Africa	14.3

Source: Ohorongo cement company

Only 11.7% of the company shares is Namibian owned, the remaining 88.3% of the company’s shares are foreign owned. Due to competition and high imports of cement from China, Ohorongo cement have pending purchase agreement and the potential buyer is a Chinese company which is seeking to acquire 70% share. If the approval goes through, the Namibian Cement sector will be in the hands of the Chinese (Amukeshe and Erastus, 2020).

6.2 Tschudi Mine

Tschudi mine is located about 15km northwest of Tsumeb town. Although the copper mine started its operations in the year 2015, its origin dates to 1991 when it was owned by Tsumeb Corporation Limited (TCL). Tschudi mine is home to about 800 employees (155 Tschudi; 350 Basel Reed and others) and the mine produces 99.998% pure copper. In terms of shareholding, 93.4% is owned by weatherly and the remaining is owned by individual entities. The mine has donated several hectares of land worth over N\$30 million to the Tsumeb municipality to build Kuvuki primary school to accommodate school going kids from the area of Kuvuki land and the surrounding areas. Tshudi mine is not an EPZ but rather FDI.

Table 4: Tschudi mine-ownership

Ownership of mine	Origin / Ownership	Shareholding (%)
Weatherly	UK	93.4
Epangelo	Namibia	2.5
Bank Windhoek	Namibia	0.6
Pre-Weatherly Namibian Shareholders	Namibia	1
Labour Investment Holdings	Namibia	2.5

Source: Tschudi mine

6.3 Tsumeb Smelter

The Tsumeb smelter which is owned by Dundee precious metals is situated a few kilometers from Tsumeb town and started operations in 1962 and took over the smelter. However, copper smelting in Tsumeb dates back to 1904. Dundee Precious Metals is not a mine as such but is rather involved in the processing of copper concentrates into copper blisters whereby most of the concentrates are sourced from Bulgaria, South America and small miners around Opuwo area. It is the biggest employer in Oshikoto region, employing about 800 permanent employees of which 99% are Namibians. It drives economic development in Tsumeb, case in point, in 1998 when it had temporarily closed, most businesses ended up closing too. Dundee precious metals is 90% owned by Weatherly and the remaining 10% is owned by Ongopolo (local bee) and the employee share trust.

The company has a community trust towards its social corporate responsibilities to invest in community in various projects such as infrastructure, education and building schools and houses for employees. The community trust has a dedicated budget every year from which over N\$60 million has been spent on the community including a donation of N\$1 million towards the drought relief. They also support projects outside mining area. Dundee Precious Metals provides significant economic spin-offs not only to Tsumeb town but Oshikoto region at large. Dundee Precious Metals produces and supplies Sulphuric acid (one of the bi products) to Rossing uranium mine (90%) and small portion to Tschudi mine. The Sulphuric acid plant serves two purposes: firstly, from a break-even perspective, secondly, as a way of eliminating the acid from the air.

Dundee Precious Metals Tsumeb (DPMT) plans to expand their current smelter operations in Tsumeb in order to increase the copper concentrate throughput capacity from 240,000 tons per annum (tpa) to 370,000 tpa.

Table 5: Tsumeb smelter-ownership

Ownership of mine	Origin / Ownership	Shareholding (%)
Dundee Precious Metals (TSX)	Canada	90
Local BEE	Namibia	8
Employee Share Trust	Namibia	2

Source: Dundee precious metals

6.4 Cheetah Cement – Whale Rock Cement (Pty) Ltd

Cheetah cement is located 10 km north of the town of Otjiwarongo, in the Cleveland Farm. The company has a maximum annual target of 1,200 tons; however, in 2019 it produced only 500,000 tons. The firm has a total staff complement of 226, of which 156 are Namibian employees and 70 Chinese employees. Cheetah cement is owned by 2 Chinese nationals with the most shares and 1 Namibian. The mine is experiencing a significant reduction in demand for finished products reflected by the current economic climate and decrease in construction activities. The remaining life of the mine is 35 years. Cement products are sold locally although prospects for export will be considered in future.

Table 6: Cheetah cement -ownership

Ownership of mine	Origin / Ownership	Shareholding (%)
Zhang Qi	China	70
Mu Xiao	China	20
A. Z. //Gowaseb	Namibia	10

Source: Cheetah cement

6.5 B2Gold Namibia (Pty) Ltd (Otjikoto Mine)

The Otjikoto Mine is a US\$400 investment operation that is located between the towns of Otjiwarongo and Otavi. It is owned by B2Gold Namibia (Pty) Ltd which is a 90% owned subsidiary of B2Gold Corp (Canadian) and 10% Namibian shareholding. In 2019, the mine employs about 1,168 staff of which 900 is permanent and 268 contractors. Otjikoto Mine's construction was completed in 2014, and the first gold poured in December 2014, with 2015 being its first full year of production. There has been no labour unrest at Otjikoto Mine since its establishment.

Otjikoto mine has recorded 5,429 kilograms of gold bullion (bars) in 2017, which translate to a 15% increase from 4,714 kilograms produced in 2016. According to B2Gold, the strong production performance was due to better than expected high-grade ore from the Wolfshag Pit and improved

mill throughput. Furthermore, the strong performance was attributed to the better gold price for 2017 as compared to that of 2016. The company operates in two open pits of approximately 2,000 ha each. The total operational area is 20,000 ha. Meanwhile, 2018 production is expected to decrease as high-grade gold ore in the current pit has been depleted and the company is experiencing a lack of funds for further exploration for new resources. Otjikoto Mine is self-reliant on energy.

Table 7: Otjikoto mine-ownership

Ownership of mine	Origin / Ownership	Shareholding (%)
B2Gold Namibia	Canada	90
EVI Mining Company	Namibia	10

Source: B2Gold

6.6 Rossing uranium mine

Uranium was discovered in the Namib Desert in 1928, but it was not until intensive exploration in the late 1950s that much interest was shown in the area. After discovering numerous uranium occurrences, Rio Tinto secured the rights to the low-grade Rössing deposit in 1966. The mine is located 12 km from the town of Arandis, which lies 70 km inland from the coastal town of Swakopmund in Namibia’s Erongo Region. Mining is done by blasting, loading and hauling from the open pit before the uranium-bearing rock is processed to produce uranium oxide. In 2019, the open pit measured 3 km by 1.5 km and is 390 m deep.

Rio Tinto sold their majority of shares (68.6%) to China National Uranium Corporation and the official hand over was completed on the 26th July 2019. The transaction is subject to certain conditions including merger approval from the Namibian Competition Commission. Subject to these conditions being met, the transaction was expected to be completed in the first half of 2019. The Namibian Government has a shareholding of 3.4% and it has the majority (51%) when it comes to voting rights. The Iranian Foreign Investment Company (IFIC) is a legacy investor in Rössing Uranium, holding a 15% stake that goes back to the early 1970s in the financing of the mine. The Industrial Development Corporation (IDC) of South Africa owns 10%, while individual shareholders own a combined 3%. The life span of the mine is estimated to extend up to at least 2025.

Table 8: Rossing uranium mine-ownership

Ownership of mine	Origin / Ownership	Shareholding (%)
CNUC Namibia Mining Ltd.	China	68.6
Iran Foreign Investment Co.	Iran	15.3
IDC of South Africa	South Africa	10.2
Government of Namibia	Namibia	3.4
Other Minority Shareholders	Namibia	1.7
Other Minority Shareholders	South Africa	0.7
Other Minority Shareholders	UK	0.1

Source: Rossing uranium

6.7 Swakop uranium mine

The N\$30 billion Swakop Uranium (Husab) mine was in 2019 ranked as the largest open-pit uranium mine in the world after the McArthur River uranium mine in northern Saskatchewan, Canada, which was due to close down operations during 2018. The Husab Mine started production in early December 2015 following the completion of the sulphuric acid leaching plant. It is owned by the Namibian government through Epangelo Mining and China General Nuclear of China through Swakop Uranium (Pty) Ltd.

Table 9: Swakop uranium mine -ownership

Ownership of mine	Origin / Ownership	Shareholding (%)
China General Nuclear	China	90
Epangelo	Namibia	10

Source: Swakop uranium

6.8 Navachab gold mine

The deposit, with very fine-grained gold, was discovered as a result of a geochemical exploration program in October 1984, during exploration for carbonate-hosted gold deposits area. It was discovered on the farm Navachab, 6km south of the main Okahandja-Swakopmund tarred road, 10km south west of Karibib. Construction work began in 1988 and the mine was commissioned in 1989. In terms of shareholding for Navachab mine, QKR and Epangelo owns 92.5% and 7.5% respectively.

Navachab mine is an open pit mine, producing gold bullion which is exported to South Africa to be refined and sold at the Rand Refinery in South Africa. The mine had experienced few challenges such as cash constraints that have altered their operations; however, it is expected to recover from these setbacks given the development in the satellite ore bodies deposits with a high-grade

concentration. The gold production has decreased over the past two years, due to lower grades mine treated through the plant. The mine will depend on stockpiles for 2019 when ML180 satellite pit is mined out and for the next 2 years whilst stripping waste on the west pushback. The mine has an estimated 4.4 million of ounces of gold yet to be mined and for that an estimate of N\$400 million investment will be required.

Navachab has a total of 365 employees (359 Navachab and 6 contractors). Of these, 99% are Namibians while only 2 (1%) are expatriates. In total, males and females account for 84% and 16% respectively. The mine experienced one fatality in 2009. Based on their social corporate responsibilities, Navachab has donated N\$500,000 for drought relief to government, N\$300,000 to Karibib community towards the women garden project, donated sheep for breeding to the needy for the Karakul project. All employees have 100% medical aid cover.

Table 10: Navachab gold mine-ownership

Ownership of mine	Origin / Ownership	Shareholding (%)
QKR minerals holdings	UK	92.5
Epangelo	Namibia	7.5

Source: Navachab mine

6.9 Skorpion zinc mine

Skorpion Zinc is located 25km north of the town of Rosh Pinah, in the //Kharas Region. The open pit mine started its operations in the year 1999. The mine is adding values to its output, whereby zinc is refined before it is exported to countries such as Turkey and Morocco. Refined zinc production in FY2018 is estimated to be approximately 90kilotones; rising to approximately 130kt in 2020. Due to the depletion of the zinc ore body, the mines life span remaining is estimated to be between 15 and 18 months, meaning that the mine is expected to go under care and maintenance by the year 2020. However, the mine could be transformed and continue operating as a smelter similar to Dundee Precious.

The mine employs 1,700 workers and 1,600 are expected to be retrenched by the year 2020. Only 100 essential workers will remain at the mine. Rosh Pinah town has not been proclaimed thus far and it is run by Roshcor (a joint venture between the two mines, Skorpion Zinc and Rosh Pinah Zinc Corporation). Scorpion zinc and Rosh Pinah Zinc Corporation employees don't pay for water and electricity, as part of their employment benefits. During the last 3 years, the mine has been running a budget of N\$6 million per year specifically on corporate social responsibility. Between 70% and 80% of Rosh Pinah community have been dependent on the mine. EPZ status boosted the mine's survival. The mine uses approximately 17% of the country's total electricity consumption.

The mine owns many facilities i.e. infrastructures (water and electricity) and properties, among others, in Rosh Pinah town. Although the mine has been pumping significant money to the community, whether the money has been effective in capacitating them to be able to sustain themselves is not known. Against this background and in preparation for closure, management is planning to convert the town from a mining town to a service-based town for the town's self-sustainability. In view of this, management is planning to introduce sustainable projects i.e. agriculture (Lucerne production for animal feed), tourism (tap from the high volumes of tourists passing by Rosh Pinah town) and adventure (bikers, cyclists – mountain biking opportunity) that will maintain Rosh Pinah town and provide livelihoods for the community into the future.

The Zinc price has been subdued and highly volatile. Although demand for zinc is high, the mine is affected by China and US trade war. China has zinc but imports zinc from other countries for control purposes. Skorpion Zinc experiences a challenge of too much water which affects the ability to mine and weakens the wall. As a result of this challenge, the mine has been spending N\$43 million per annum specifically to pump the water out.

Table 11: Skorpion zinc mine-ownership

Ownership of mine	Origin / Ownership	Shareholding (%)
Vedanta	South Africa	100

Source: Skorpion Zinc mine

6.10 Rosh Pinah Zinc Corporation

The Rosh Pinah mine is an underground mine near Rosh Pinah town in the //Kharas Region of southern Namibia. It is one of the largest and most important lead and zinc mines in Namibia. The mine is in the extreme southwest, about 120 kilometers north of the Orange River and 50 kilometers east of the Atlantic. The mine started its operations in the year 1969 and now, the ore is located some 600 meters below the ground. The mine transports the unprocessed concentrate by trucks to South Africa for milling and refining of which the refined zinc and lead is sold into the international market (especially in Canada and China). Now, the mine employs at least 444 permanent employees and 192 contractors. The mine has gold and silver as its by-products while copper and iron are the unwanted impurities.

Table 12: Rosh Pinah zinc corporation-ownership

Ownership of mine	Origin / Ownership	Shareholding (%)
Trevali Mining Corporation	Canada	89.96
Jaguar	Namibia	7.84
PE Minerals	Namibia	1.63
R-Power/EEPs	Namibia	0.57

Source: Roshpinah mine

6.11 Namdeb diamond mine

Namdeb Holdings is 50% owned by the Government of the Republic of Namibia and 50% by De Beers. Namdeb Holdings has long term mining concessions in the south west of Namibia both on land and offshore, adjacent to the Orange River and offshore in the shallow waters. Namdeb Diamond Corporation is the exploration and the mining operator for all land licenses of Namdeb Holding, apart from the deep offshore mining licenses. The Oranjemund mine is expected to go under care maintenance in three years' time due to a decline in the quantity. The decline in the quantity or stock came as a result of a low grade of diamonds collected in the areas under exploration and the closure of the Elizabeth Bay mine in Lüderitz. Elizabeth Bay mine was sold to Lewcor Group, a 100% Namibian-owned Consortium after Namdeb closed the operations of the mine in September 2018 as the company felt it could no longer run the operation economically after exploring various options (IDEX, 2019).

The workers from the Elizabeth Bay were retained by the Oranjemund mine, hence no retrenchment. In 2019, the town of Oranjemund was made open to the general public and the mine was busy selling off the ailing properties to its workers and the public at large. The land and other assets were handed over to the town council to ensure a continuous growth in the town as well as self-management after mining activities has ceased. On the employment front, the mine employs 2,100 employees of which 1,400 are permanent. In terms of challenges faced, the mine incurred high cost of mining in respect of the push back. Going forward, after mining has ceased, the mine will do rehabilitation and reclamation.

Table 13: Namdeb diamond mine-ownership

Ownership of mine	Origin / Ownership	Shareholding (%)
Debeers group	UK	50
Government of Namibia	Namibia	50

Source: Namdeb

7. DIMENSION STONE INDUSTRY

Dimension stone is a commercial term that includes all-natural stones that can be quarried in blocks of different dimensions and are processed by cutting or splitting. The Opening up of strong emerging global economies, China, has evolved to become key dimension stone producers and consumers with market demand increasing immensely in recent years (Cosi, 2015).

The dimension stone industry in Namibia is one of the lucrative sectors and consist mainly of marble and granite. The types found in Namibia are marble, granite, dolerite, conglomerate and sodalite (Roberth et al. 2017). These precious commodities are mostly located in the mountains around Karibib district. Just like other mining industries, the dimension stones sector is largely dominated by rich foreign companies who mainly extract the minerals and exports to Europe and Asia. Local ownership of minerals have been very difficult in Namibia because mining projects are capital intensive and requires massive financial resource (Brandt, 2019).

The marbles and granite extracted in Namibia have been previously exported in blocks, unprocessed granites and marbles today are cut and polished by local cutting and processing plants. The main dimension stone cutting, and polishing plants are Yu Tian Stone Product Factory located few kilometers outside Walvis Bay, Marmowerke in Karibib and Namibian Stone Processing in Omaruru. Yu Tian Stone Product Factory and Marmowerke are part of the Chinese international corporation Best Cheer Stone Group.



Figure 8: Marble mining

An interview was done with the 3 main companies: Best Cheer Investments Namibia cc, Dreamland and Okatji marble. Below is a list of dimension/ companies in Namibia.

Table 14: Dimension stone companies in Namibia

Quarry Name	Mineral	Origin / Ownership
NAMAGRA, African Granite	Marble and Granite	Namibian
Best Cheer Investments Namibia cc	Marble and Granite	Chinese
Ekungungu Trading cc	Granite and Marble	Chinese
Stone Africa (pty) Ltd	Granite	Namibian
Okatjii Marble	Marble	Namibian
Omusati Granite Quarry	Granite and Marble	Chinese
Marvest Marble Quarry	Marble and Granite	Namibian

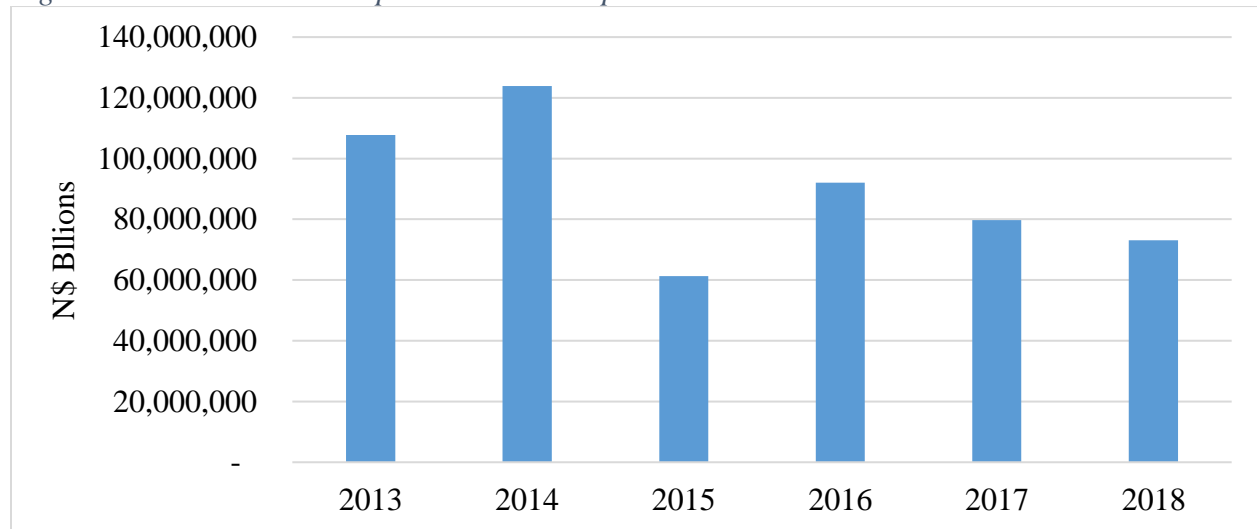
Source: Ministry of Mines & Energy (2018)

Most of these mines are located on one farm near Karibib. The farm owner of (Okatjimukuju) regularly receive phone calls from many companies aiming to obtain mining rights on the farm. The common marble mined in the area is white or pink which is not really in high demand now due to trade tensions. The mine owners hope and believe that the market will pick up again in 2020.

8. MINING SOCIAL CORPORATE RESPONSIBILITIES

Corporate social responsibilities by mining companies are important in developing a community or region in a sustainable way as part of addressing the long-term developmental needs of that community. The positive effects of CSR can bring about social and economic change in areas where government cannot reach as mining companies invest directly in areas where their mining activities take place. In Namibia, compliance with CSRs is not imposed by legislation as condition of obtaining a mining license thus, it is up to the mining companies if they take the initiative to improve the living condition of local communities in which they operate. Expenditure on CSR initiatives to the community has varied over the years. Mining companies' have invested a total of N\$ 537.9 billion between 2013 and 2018.

Figure 9: Investment on Corporate Social Responsibilities



Data Source: Chamber of Mines of Namibia

9. VALUE ADDITION IN THE MINING SECTOR

The economy grows as a result of value added to production of goods and services that create wealth for any country. Resources abundant countries are encouraged to add value to their natural resources in order to maximize benefits. Value addition is necessary as it not only boost tax revenue, but also formation of new business, add jobs, bring skills and technology to the country. Due to lack of investment in mining value addition, it is difficult for Namibia to engage into complete value addition and achieve its developmental goals.

The Namibian government sees value addition and beneficiation as an alternative to reliance on the export of unprocessed mineral resources and has placed focus on value addition in the mining sector. This is done through varies publication such as Vision 2030, National Development Plans (NDPs) Industrialization Policy (IP) and its implementation document “Growth at Home

Strategy.” Export levy is one of the policy interventions introduced by the government to incentivise value addition in Namibia. The Joint Value Addition Committee (JVAC) led by Ministry of Industrialization & Trade and chaired by Ministry of Mines and Energy (MME) was established in 2013 and through this committee an in-depth analysis on the beneficiation possibilities for Namibia’s key mineral commodities and opportunities for value addition was done (MME, 2013).

According to Davidson (2017), Namibia’s mining sector is producing minerals with significant value added, such as high-grade zinc, copper cathode and blister copper and majority of Namibia’s minerals are exported in concentrate. The following are the value additions being carried out in Namibia:

Dundee precious metal produces refined copper cathode which is 99.9% pure and it is exported for further refining. Dundee precious metal also have an acid plant which produces sulphuric acid which is used by the local Uranium mines. This has reduced the need to import sulphuric acid from international producers. Copper production in Namibia is supplemented by imports from Zambia (McGregor et al., 2017).

Diamonds are also being cut and polished locally however, significant investment is required to boost the diamond cutting and polishing industry. Value addition also exist in dimension stones extracted in Namibia although there is still some that are exported in blocks. There is a processing plant in Karibib which is processing Marbles and granites into table toppers and tiles.

The Namibian owned salt Company in the coastal region is the largest salt producer in Southern Africa. The coarse salt produced is refined at Walvis Bay salt refiners and Ekango salt refiners before it is exported. Total value addition (covering all stages of the production value chain while making use of local inputs) in Namibia has been achieved in the production of cement at Ohorongo Sargberg cement and Whale rock (Cheetah cement) plants.

The benefits of minerals to Namibian has not yet been fully realized as most minerals are being exported in raw form or semi processed. In order to unlock mining potential, Namibia should overcome obstacles that hamper the development of the industry in order to achieve greater economic benefits by attracting more investment in mining value addition and also ensure Namibians accrue benefits from mining operations. Mining companies are plagued by rising cost of power, scarce fresh water supply, a shortage of technical skills and technology. These are obstacles that hamper processing activities and need to be addressed in order to embark on the value addition journey.

10. THE REGIONAL CONTEXT

Many African countries depend on mining for economic growth and livelihood. In 1997 SADC launched the Protocol on mining whose aim was to develop the region's mineral resources through international collaboration, in turn improving the living standards of the people engaged with the mining industry (SADC, 2018).

Despite employment creation and foreign capital generation, mining in South Africa has also built townships, schools and hospitals, amongst others. South Africa accounts for 96% of global reserves of platinum group metals and it is the second largest palladium producer in the world. Mining export earnings increased from R294 billion in 2016 (27% of total exports) to R307 billion in 2017. Employment rose by 1.6% due to increased mining production in 2017 (464,667 in 2017 from 457,290 in 2016). In 2018 mining production decreased by 1.6% from an increase of 3.9% in 2017. Gross Fixed investment grew to R80.9 billion in 2017 from R67.6 billion in 2016. The mining sector paid R5.8 billion in royalties and R16 billion in taxes in 2016/17 (Chamber of mines of South Africa, 2017)

Richard (2018), indicated that mining share in GDP of South Africa remained stagnant between 2002 and 2018. Investment in the sector is failing to generate a consistent growth. The report further mentioned that Policy interventions in place will lead to a continuous decline of the South African mining industry. Gcabashe (1997) had recommended that future mineral policy has to take into account the international nature of the mining industry in order to ensure the continuing prosperity of South African mines.

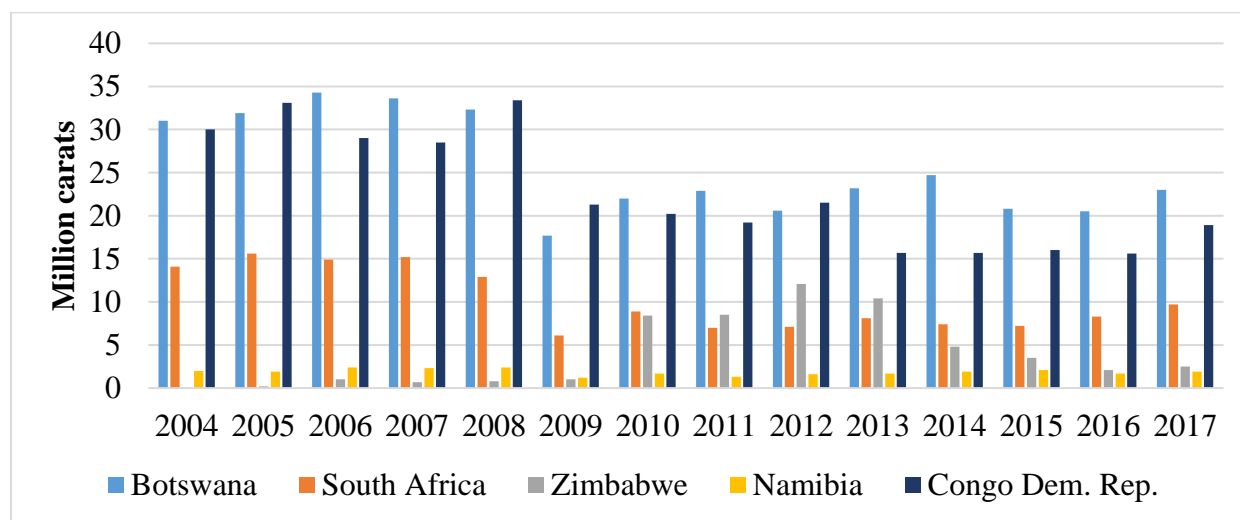
By nature, mining has the potential to damage the environment and cause health problems in humans. It is therefore the government's responsibility to ensure that such environmental and human dangers are minimized through its regulatory frameworks to lessen the negative impacts to the community and environment. Mining in South Africa especially, coal carries continuous air pollution, pollute rainwater, cause respiratory illnesses and asthma in children and elderly in the mining area etc. The harm done to mining communities is because of government's failure to monitor compliance and lack of coordination (Rall, 2018).

In Botswana, diamond mining has contributed significantly to the GDP and revenue over the years. Fraser Institute's 2018 annual survey of mining and exploration companies revealed that Botswana has the best mining environment in Africa. Botswana is the world's highest value diamond producer and the second largest producer of diamond. Botswana recorded an increase in its Policy Perception Index (PPI) score thereby reflecting a decrease concern over uncertainty concerning protected areas, trade barriers and political stability. The survey reported that the tax regime in Botswana continues to be exemplary when compared to other African jurisdictions and encourages investment in exploration. Namibia was ranked (36th of 83) second most attractive jurisdiction when only policies are considered but there are concerns that Namibia's Investment Promotion

Act is constraining investment. It will be difficult to pursue new mining capital projects in Namibia unless this legislation is abolished or amended (Stedman & Green, 2018).

Zambia, on the other hand, is among the top producers of copper in the world. The mining sector in Zambia is also faced with challenges in achieving sustainable mining practices which lessen the threat to human and damage to the environment (Banda, undated). The extent of Government’s involvement in the implementation of laws in mining activities is very crucial. Sepo (2016) found evidence of more government influence in mining operations in Botswana as compared to Zambia which reduces the incidence of rent seeking on Botswana. However, he recommended that the two countries need legal reform to improve institutional quality and mitigate negative impacts of mining.

Figure 10: Diamond Production by Volume 2004 -2017



Source: Kimberley Process-Rough Diamond Statistics

Figure 10 shows that, among the selected SADC countries, Botswana produces the most diamonds with an average of 25.6 million carats between 2004 and 2017. The production in Botswana has declined by 26% from 31 million carats in 2004 to 23 million carats in 2017. The second largest producer is Democratic Republic of Congo followed by South Africa, Zimbabwe and Namibia being the least producer. Namibia produced 1.9 million carats on average between 2004 and 2017.

11. LITERATURE REVIEW

In terms of literature, there has been some controversy on whether minerals resources are a blessing or a curse to a country richly endowed with such resources. Some researchers are in support of the former view while some are against it. Mineral or resource rich countries are perceived to have an advantage over those with less endowments as minerals are a source of funds for rapid development and poverty reduction. However, this might not be the case as resource abundance

does not automatically lead to economic prosperity as governments are under pressure to spend mineral revenues on current consumption rather than investing them (Lange, 2003). This is a trait mostly common in developing countries where many basic needs remain unmet.

Sonarajah (2004) supports the view of encouraging foreign investment in the mining sector and is of the opinion that Foreign Direct Investment (FDI) is important to any society as it ensures that domestic capital is available for public benefit. He further states that foreign investment benefits a country in terms of technology that is not available in that country. Researchers Weber-Fahr, Strongman, Kunanayagam, McMahan and Sheldon (2001) state that a country's mining sector has a role to play in reducing poverty as it provides government with budgetary resources that are necessary for poverty reduction programmes and that can be a catalyst for further private sector development in the country. However, the impact of mining on poverty reduction depends on how well the mining policies and frameworks are developed. Further they state that policy makers need to be mindful of the social and environmental consequences of the mining sector and ensure that these are mitigated. If mining becomes economically unsustainable it can also be a cause of poverty. In addition, Tobin and Ackerman (undated) point out that even though developing countries accept FDI contracts with foreign developed countries, not all are keen on the idea as they fear a sense of loss of control over their economic activities through restrictions on their employment and development policies. This can be linked to Namibia in terms of ownership where most mines are foreign owned, which might have an influence on policy development in the near future. Furthermore, mineral resource-rich countries tend to benefit little from mining as most supplies are imported, little value addition is done domestically, and most skilled workers employed are sourced from abroad.

Although some literature point to a conclusion that mining is beneficial for economic development through its impact on income creation and foreign exchange earnings, McCarthy (1997), however, argues against foreign investment into the mining sector by stating that mining has other characteristics that are not so favourable from a development point of view. Thus, mineral wealth can be more of a liability than an asset in the economic development process. In addition, the notion of whether minerals might be a curse than a blessing stems from the observed tendency of mineral rich countries making poor decisions about them. Often mineral rents are spent through the growth of the public sector employment and salaries. The greatest damage is being done by inappropriate policy decisions related to the channelling of part of mineral revenue into other sectors of the economy. This may take on different forms but the main focus or aim should be to invest a substantial share of mining revenue in productive non mining sectors of the economy. Particularly in Namibia, revenue generated from mining activities goes to state coffers and redistributed as part of the national budget. There is lack of information on how these revenues are spent on. According to Karl (2006) the resource curse is a political problem of the efficiency, transparency and distribution of the costs and benefits of the world's most valuable commodities. Also, there is lack of transparency in terms of available resources to be exploited, the rate of exploitation, funds that governments receive and uses to which these funds are put. In Namibia,

mining revenues are not linked to specific spending activities and there is also limited transparency on the management of mining revenues making it difficult to identify the direct support from the mining sector channelled into specific social spending (IGF, 2018).

John (2011) is in support of McCarthy with the view of mineral resources being a curse⁸ to many countries. In this study, he argues that despite history pointing to a positive association of natural resource abundance and industrial growth, in most less developed countries, they are deemed to be more of a curse than a blessing. Shimutwikeni (undated) is of the opinion that developing countries are in a race to attract foreign investment in their mineral resources as they heavily rely on economic rents obtained from their exploitation. The competitiveness of a fiscal regime is important in winning over investors as well as the consideration of geological risks and rewards, political and macroeconomic risks. In a similar manner, Weinthal and Luong (2006) are of the opinion that abundant mineral resources have negative economic and political outcomes as there are countries that have squandered their mineral wealth and made their citizens worse off. The study refers to an example of Nigerian government that accrued billions in oil revenues yet its economy shrunk. When countries rely more on natural resources for wealth, they tend to forget the need for a diversified and skilled workforce that can support other economic sectors once the wealth has dried up (Koitsiwe, 2018). In addition, mineral resources have been the source of many conflicts in African countries thereby hindering the maximization of economic benefit and contributing little to poverty reduction (Davidson, undated).

Sachs and Warner (1995) with regard to the resource curse noted that despite beneficial impact of natural resource wealth on economic prosperity, countries with abundance natural resources experienced low growth and they tend to be examples of development failures. On the other hand, countries (Switzerland & Japan) with poor resources⁹ experienced remarkably high economic growth rates as compared to Russia with abundant resources. This view is also shared by Mahonye and Mandishara (2015) who studied the relationship between the mineral resources and economic growth in Zimbabwe and concluded that there was a negative relationship between mineral resources and economic growth in Zimbabwe thus Zimbabwe was under a resource curse trap for that period. One of the problems attributed to the negative relationship was lack of a minerals charter to govern the proceedings in the extraction, security and sale of mineral resources for the mining sector. Similarly, Auty (1990, 1993, 1994a) found little or no economic growth in many mineral-rich countries, to which negative growth was observed for a number of countries.

Hawkins (2009) argues that in some countries in sub-Saharan Africa, resource extraction has failed to deliver sustainable increases in the rate of socio-economic development. Further, he states that the exploitation of natural resources should contribute to faster economic growth, however, the study states that the experience in countries such as Botswana and Norway shows that the existence of a rich natural resource base does not predestine a country to failure. If natural wealth fails to

⁸ Resource curse is a situation whereby resource rich countries are outperformed by non-resource rich countries in economic growth and development.

⁹ Agriculture, minerals & fuels

translate into socio-economic advancement, policy is normally at fault. However, Arezki and Van der Ploeg (2007) contributed to literature of natural resource as a resource curse and attributed it to be a blessing not always a curse. Gylfason (2001) supports this view and argues that natural resources provide nations with short term wealth but in the long term it reduces economic growth. However, poor growth performance is not explained by abundance of natural resources that a country has but by what a country does with it. A World Bank (2001) study used Botswana as a case where a natural resource curse was not necessarily the fate of all resource abundant countries, rather economic management that helped the country to avoid the effects of a resource curse.

12. ANALYSIS AND FINDINGS

12.1. Major Mines

12.1.1 Impact of mining on social, Infrastructure and local business development

Ohorongo cement constructed a 10KM access road to Sargberg Plant. Since the factory started its operation in 2011, several infrastructural projects have been completed by the Ohorongo Otavi Community Trust. These include, repair and upgrading of the Otavi clinic, Sponsorship of a new ambulance for the Otavi clinic, Support of the Etunda project, reconstruction of the sport grounds in Otavi. Ohorongo cement has also focused on SME's development and using existing local enterprises such as Pinho Pallets to supply wood pallets and cleaning services, NG engineering – Packaging lone contractor, Rubicon security-employee transport to and from Tsumeb, Rubicon security, Rubicon clothing, and various companies in the transport sector and various charcoal fines suppliers.

Tschudi provided jobs for over 700 people. It has supported Namibian businesses to the tune of N\$1.25 Billion per annum spent on local procurement. Land has also been donated to the Tsumeb Municipality.

Most of the initial basic infrastructure in Tsumeb (houses, essential services provision i.e. water infrastructure, the first hospital etc.) were built by TCL. The Smelter has invested Millions to sustain the town as the main employer. The **Tsumeb Smelter** today operated by **Dundee Precious Metal** continue to build on the positive legacy established by its former owners through collaboration with key stakeholders to invest in developmental projects.

Dundee through its Corporate Social Responsibility developed a Community Investment Policy that allows for the creation of different vehicles for social investment. As part of its social investment strategy, Dundee established a Community Trust that is governed as a separate legal entity with its own Board of Trustees whose mandate is to uplift the social and economic fabric of Tsumeb, Oshikoto Region and the Namibian nation at large. There is a programme targeting capacity building of SME's through partnership with NCCI. Through this partnership with the local NCCI branch, the company channeled funds to individual local SME's to cater for starting businesses and create employment.

Since 2011, over 120 individual entrepreneurs benefitted through grant funding. Downstream beneficiation through job creation - e.g. new businesses in town, SME's such as hair salons, dress making businesses, booming transportation and logistics business, retail businesses, hospitality sector and energy sector etc. Financial support (grant funding of Individual Businesses with viable ideas). Training and Mentorship programme for SME capacity building. Partnership with Tsumeb Municipality on the establishment of the SME, Fruit & Veg Hub - infrastructural development to create a conducive environment for SME's to succeed. Dundee Precious Metals Tsumeb is also the, main sponsor for the Annual Tsumeb Copper Festival aimed at Economic stimulation in the town.

As part of their social corporate responsibilities, **Cheetah Cement (Whale Rock)** has donated cement for Shack dweller project in Otjiwarongo, assisted Otjiwarongo town council with N\$10 Million for land servicing and donated cement to Etunda irrigation project. As part of corporate social investment, intention is to build accommodation facilities for staff members as well as first aid facility in future. Total investment so far is estimated at N\$1.780 Billion while equipment is sourced directly from China. In terms of business development, the mine and local business have partnered in selling the cement at a low cost.

Rössing Uranium built Arandis town to serve as accommodation for workers of the mine. Arandis Town Council (ATC) and the Mine is running a two-year project to remove Asbestos Containing material in Arandis and to replace Asbestos roofs on infrastructure where roofs have been rated as critical or high risk. This risk is being addressed as part of the due diligence processes from Rössing Mine.

In Swakopmund, the Mine built accommodation facilities; supported the development of training and educational support centers in both Ondangwa, Arandis, Lüderitz and Swakopmund; built health provision and recreational facilities in both Swakopmund and Arandis; supported schools in Walvis Bay, Swakopmund, Arandis and Ondangwa. The mine through the 43 years has maintained a reputation as a financial management structure for community-based initiatives, more especially through the work done by the Rössing Foundation (RF) in all 14 regions in Namibia. To date, the Mine supports the Museum in Swakopmund in that visitors to the Mine pay a fee to the Museum, which they again use to augment their annual budget.

Save for the Math's & Science centers is an auxiliary building at the RF's centers in Swakopmund, Arandis and Ondangwa. All centers previously owned by the RF are being managed by either private individuals (i.e. Asparagus far outside Swakopmund) or State-Owned Enterprises (i.e. NTA office in Khomasdal, Windhoek and the Okashana Training center in the north).

Four years ago, the Mine supported the Erongo House of Safety, which was established in an old dormitory in Swakopmund that the Mine sold to the Erongo Development Foundation (EDF). The EDF is in the process of selling the property as maintenance costs of the facility became too high. Funds raised through the sale will be used to support Children in Need of Care.

The local contractor community that is servicing the Mine's in the region most started off with working for Rössing. Many still attribute their safety record and staff management to the interactions with and contractual agreements signed with the Mine. The Mine also operates a storage facility in the harbor in Walvis Bay and works with TransNamib and Namwater and Nampower in securing and maintaining responsible use and services from the utilities to the Mine.

Navachab gold mine contributes to the socio-economic development of Karibib town through employment and Corporate Social responsibilities (CSR). The company employs over 360 employees. The mine also, owns 250 houses in Karibib which the mine fully maintains at own cost (no employees cost). The mine and its employees are the source of income for Karibib, local business and surrounding town. The mine assists the municipality with technical expertise for upkeep of the town infrastructure such as the grading of the roads, maintenance of waste dumps, and maintenance of drains. The mine is in discussion with the municipality and other donors on the development of low-cost housing ervens.

Rosh Pinah mine has a great impact on the economic and infrastructure of the town. Rosh Pinah mine is the main reason for the existence and development of Rosh Pinah as a town. Without the mine, the necessities i.e. the Post Office, Telecom, shops and primary health care facilities and housing would have not been in place. Rosh Pinah Zinc Corporation and Vedanta (Scorpion Zinc) are joint owners of the RoshSkor which provides basic municipality services for the town and together, the two mines are also the founders of the Obib Training Centre which provided training and development to the community members to make them self-sustainable. Rosh Pinah mine support local businesses and the majority (30%) of their contracts are from the //Karas Region.

The town of Oranjemund was created as an ancillary works for the mining operations. All service infrastructure was established by **CDM / Namdeb** over the years but had been transferred to the Oranjemund Town Council as part of Town Transformation Memorandum of Agreement. More than 90% of the current improvements in town belongs to Namdeb but with the process of town normalization being under way, many of the properties will be sold to employees and the general public.

Many of the local businesses supply goods and services directly to the mining operations. The Positive Legacy project intends through the establishment of a Special Purpose Vehicle (SPV) to transform the local diamond mining economy to a multi-faceted sustainable economy.

12.1.2. Environmental health impacts

Generally, mining is associated with environmental degradation and pollution which have severe health implications to the community. As a matter of principle, the noted environmental damage and pollution should be minimized at all costs. Thus, by law before mining takes place, an Environmental Impact Assessment (EIA) study is carried out to prevent, mitigate, control and repair environmental and social impacts that come from mining activities (Musokotwane, 2016).

In Namibia, mining activities cannot commence until an environmental clearance certificate from the Ministry of Environment and Tourism is issued based on the Environmental Management Act. The impact assessment study should stipulate how the cleared land will be taken back to its original state and this rehabilitation plan should be adhered to at the end of the mining activities. Pollution can have harmful health impacts on the environment and people.

When the community was asked what environmental effects the community might be suffering from as a result of mining, the respondents indicated that due to mining operations, the community was exposed to air pollution due to dust resulting in respiratory health issues such as coughing among children as well as tuberculosis (TB) cases. Another environmental effect was noise pollution and underground vibrations as a result of blasting which causes cracks in houses. There were also concerns that mines bring about degradation and deforestation. These environmental effects may go beyond the life span of the mine as such land will be of no use to the community if the area is not properly restored. Some respondents indicated that there are cases where mines do not rehabilitate the area after closure. Very few mines that rehabilitate by planting trees after mining on one side before they move to the other.

Majority of the mines indicated that there were no health effects to the community as a result of mining albeit community complaints, except for Dundee Precious metal and Rosh Pinah Zinc mine.

Dundee Precious metal: The community of Tsumeb was exposed to sulphur dioxide emissions resulting from the smelting process. Sulphur dioxide is a known respiratory irritant. At the moment, emission levels declined significantly since commissioning of the Sulphuric Acid Plant in 2015 (as per air quality monitoring data). A significant decline is also seen in community complaints (as recorded through complaint mechanisms, from 2015 to date) and in the frequency of detection of sulphur dioxide and associated symptoms (as per community health study in 2018).

Being studied, legacy operations of the old mine and the Smelter led to widespread contamination of the area surrounding the sites, including areas where the community may be exposed. A contaminated land assessment study is ongoing, to determine extent of contamination. A community health survey done in 2016 and 2018 found that some communities were exposed to arsenic at levels that are considered higher than normal (based on a control group in Oshakati), but that emissions from the smelter could not account for the higher than normal levels. From the contaminated land assessment and community health studies, possible pathways of exposure and sources are interrogated, and appropriate way forward will be determined.

Rosh Pinah zinc: None of the community's health has been affected but dust from the tailings that contains lead blows over the town and may affect the health of the community. Less dust generation from the tailing facility due to improved dust suspension initiatives, improved awareness trainings on the risks of poor personal hygiene and housekeeping with regards to lead exposure to both employees and community members. The mine has the dust suppression and monitoring programs, lead awareness programme and PM 2.5 monitoring in residential areas.

12.1.3. Challenges faced by the mines

“In addition to few policies supporting local beneficiation, low Industrialisation is one of the challenges facing the African mining sector” Tom Alweendo – Minister of Mines and Energy

To date the African region continues to struggle with water shortage and energy constraints, and the fact that water and energy remains a critical resource for industries especially mining, water scarcity and energy remains a major issue in Africa (Smith, 2019). Mining operation traditionally being energy hungry, the cost of energy is increasing for mining operators (Horton, 2018). In Botswana’s mining industry, major challenge often highlighted includes increasing costs, aging assets, increasing mining complexity, and water and power (Ramaphane, 2018). According to Prof Connor (2017), mining industries in South Africa faces the challenge to reduce the use of energy and water, challenges of diminishing ore grades and depressed commodity prices. Mckenna (2016) stated that in Namibia the current market forced many mines to close because they are unprofitable, their business will simply not survive the conditions.

After an interview with the mining sector, below are the challenges faced by mining industries in Namibia:

Mines	Challenges
Tschudi mine	<ul style="list-style-type: none"> • Groundwater inflow which increases operating costs; and • Low copper prices have affected the company’s business profitability.
Ohorongo cement	<ul style="list-style-type: none"> • Economic hardship which resulted in the decline in construction industry and lack of new infrastructure development projects; and • High cost of utilities and skilled labour also poses a challenge to Ohorongo cement operation.
Rössing Uranium	<ul style="list-style-type: none"> • Water Interruptions cause production outages for the mine.
Skorpion Zinc	<ul style="list-style-type: none"> • Zinc prices, exchange rate, cost of electricity and water and depleting resources.
Rosh Pinah Zinc Mine	<ul style="list-style-type: none"> • Metal prices and high operating cost
Namdeb	<ul style="list-style-type: none"> • Changes in price, exchange rate factors and fuel are the biggest cost drivers and they place strain on the cash flow of the company.

Navachab gold mine	<ul style="list-style-type: none"> • Low grade mine and fluctuations in macroeconomic conditions (gold price and exchange rates); and • Water scarcity and high cost of power.
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12.1.4 Challenge faced by the community

The respondents stated that their skills are exposed to cheap labour as they are under paid and they also face unfair treatment at workplace as compared to foreign nationals. People felt that, often the mining companies do not comply with the Namibian labour laws. It seems the community have lost hope in government as they feel nothing can be done. In summary the following are the major challenges faced by the community as a result of mining and these are:

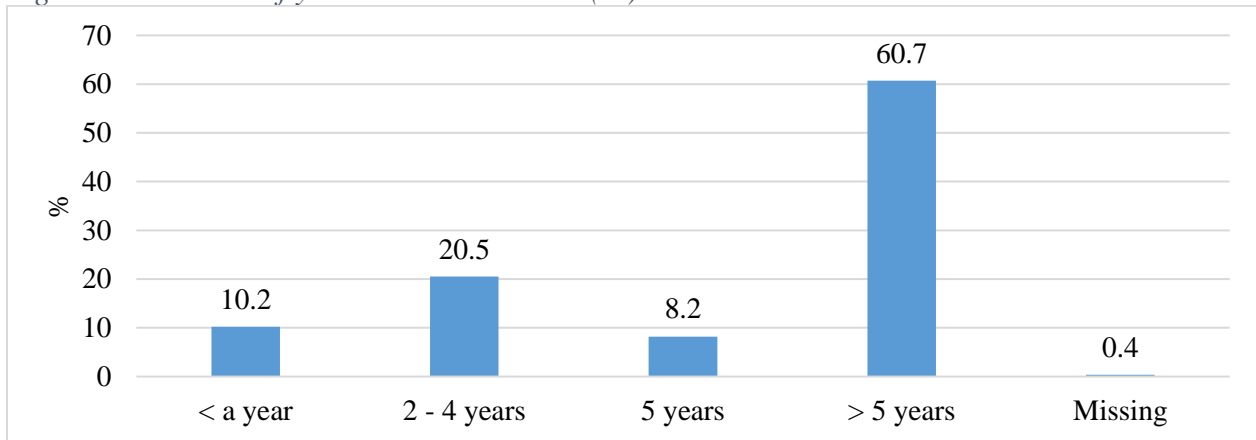
1. There are salary discrepancies- racial discrimination.
2. Exploitation of contractors-Employees that are sub-contracted or outsourced do not have medical aid and pension and they are very much exposed to danger.
3. People are suffering because in some mines there is no PPE to protect employees.
4. There is an extensive under-reporting of mining production. The mining inspectors do not really do much on reporting production. They should be inspecting mining production consistently.

12.1.5 Impact of mining on community livelihood

The respondents were asked to indicate the number of years that they have lived in the area and the changes¹⁰ observed over time. This is important because the longer the person lives in the area, the better their understanding of local issues as a result of mining activities. Figure 11 shows that 60.7% of the respondents have lived in the area for 5 years and more while the remainder have only been in the area for less than 5 years. One of the changes observed by the respondents is the influx of people from other regions (migration) outside of those regions where mines are located. The influx of people occurs due to economic opportunities mainly jobs that mining activities present. However, it puts more pressure on the local communities as they have to compete for jobs with people from other regions thus unemployment has increased over the years. Another observation raised by respondents as a result of migration of people to mine towns is that life has become more expensive for them as house prices have increased due to increase in population. Community members felt that as a result of increased migration to the areas, HIV/AIDS prevalence has increased over the years. Nevertheless, respondents have observed improvements in infrastructure developments such as electricity, water, roads, and sewerage systems, construction of houses, banks and shopping malls among others, as a result of these mines.

¹⁰ Note that changes can be negative or positive

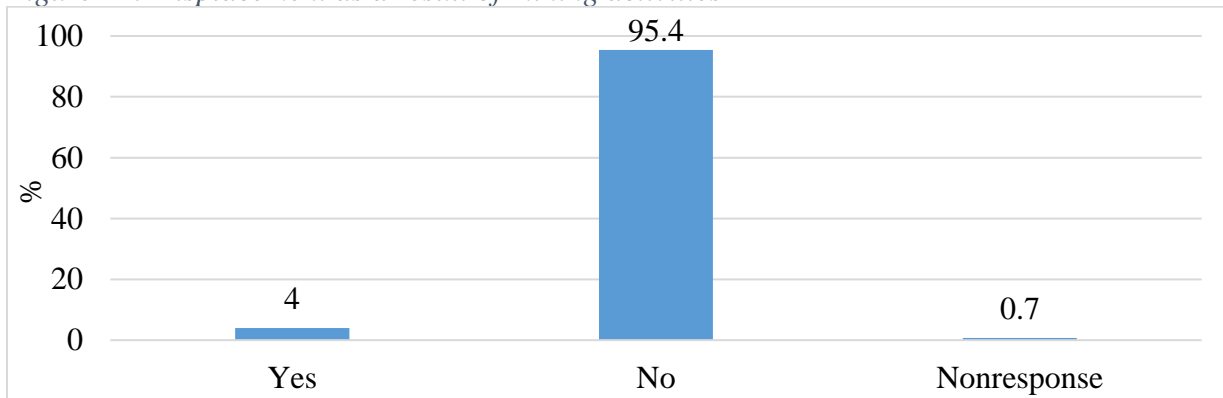
Figure 11: Number of years lived in the area (%)



Source: Author's generation using SPSS

Figure 12 is based on the question that sought to establish whether there were community members who previously stayed at the same place where the mine is located, if so, were they compensated? Majority of the respondents indicated that they were not displaced (95.4%) however those who agreed to have been displaced (4%) could not really give more information as they were not the ones directly affected. The respondents were not aware whether the affected people were compensated or not. Most mines are located in remote areas far from town or at the place on which the community do not rely on for livelihood.

Figure 12: Displacement as a result of mining activities



Source: Author's generation using SPSS

There were mixed responses regarding whether the health of local community has been negatively affected by mining activities or not. Majority of respondents (71.5%) reported that their health is not at risk or not affected by mining activities in the area, 27.8 % respondents indicated that their health were affected while 0.7% did not respond. The group that believes that mining has not affected their health negatively substantiated their views by stating that there are effective measures in place. While those that believe that they are affected, stressed that they were either directly or indirectly affected as one or two of their family member's health were affected. The respondents raised concerns of cancer and stroke cases due to radiation in uranium mining

especially people that worked in the mine for more than 10 years. There is dust and unsafe working conditions in the mines. Some employees stated that they are being exploited by their employers due to poor working conditions, exposure to dust as dust masks are not up to standard and they tend to wear out in a short period of time. Some mines do not offer medical aid benefits for the employees and they also have no emergency clinics on site, in case of any injuries and fatalities, the safety of employees is compromised. They further pointed out that some co-worker's health was affected which led to them being relieved from work as they were no longer fit for work.

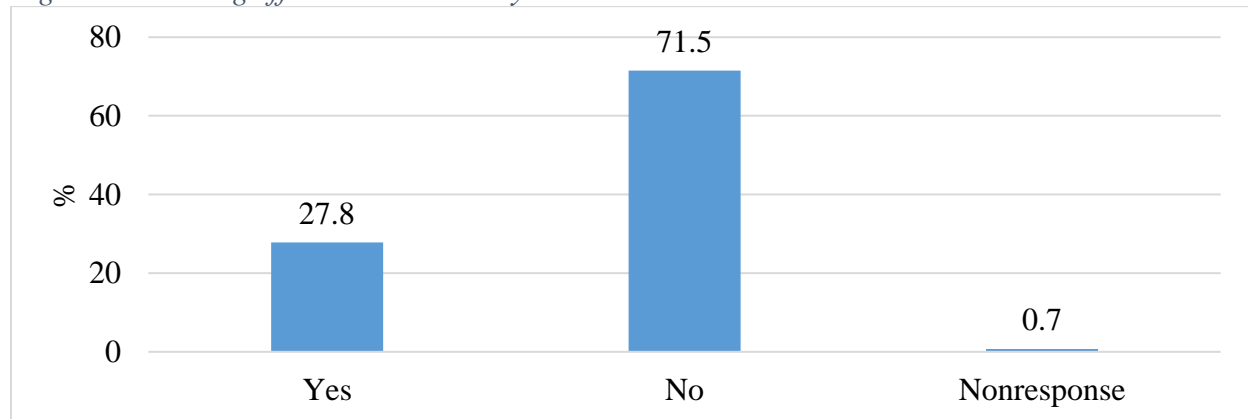
A special case is that of retired former employees in one of the mines who reported that they have worked for the mine for many years and only found out that they have cancer after they retired.

“Some of our colleagues died just 2 years after we retired due to cancer said one of the former employees.”

“We used to go for medical check-ups once a year and were told everything was fine, how is it that most of those who died of cancer worked for that particular mine. Government knows about our issues that people were affected by cancer after working for the mine for a long time, but nothing was done, they did not even listen to our cries to be compensated.”

What was so disturbing is seeing some former employees having difficulties to walk and write on their own, on claims that it was due to radiation effects. One respondent was not willing to fill in the questionnaire as his relative was among the affected former employees.

Figure 13: Mining effects on community's Health

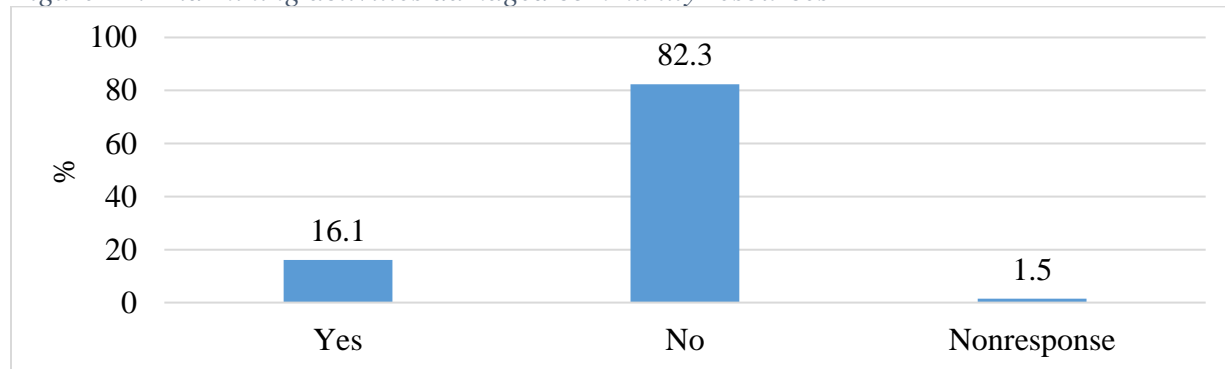


Source: Author's generation using SPSS

Community members depend on natural resources such as the forest for grazing their livestock as well as for firewood for their livelihood. The opening of a mine in that area can have negative impact on the community's means of survival as they will no longer be able to access the same natural resources due to them being cut down. Figure 14 shows the results when respondents were asked if the mine has damaged resources that were previously used by the local community for their livelihood. Out of the total respondents, 82.3% replied “no” stating that the mine did not

damage any resources used by the community while 16.1%¹¹ respondents said “yes”. Few respondents admitted having been affected resulting to loss of grazing area for their livestock. This can also be explained by the fact that most people stated that they lived a bit far from these mines.¹² Only 1.5% people who did not answer the question.

Figure 14: Did mining activities damaged community resources



Source: Author’ generation using SPSS

Mining companies are expected to improve community livelihoods and socio-economic well-being as well as environmental conditions in the region or town in which they operate through their CSR. The investment can be in a form of capacity building for workers, infrastructure set up such as public schools, health clinics, water supply systems and transport infrastructure. Under the Namibian mining charter, pillar 5 for communities and infrastructure, the objective is to ensure that mining companies contribute towards the transformation and upliftment of the communities in which they operated as well as the country. CSR aims to help companies balance the diverse demands of communities while protecting the environment and maximizing profits. This means that mining companies take on responsibility on job creation, human rights protection, welfare improvement as well as environmental protection. Despite mining CSR being in place, often benefits brought to the communities are sometimes not adequate which brings about tensions between local communities and mining companies.

Notable from figure 15 is that, respondents admitted having benefited from infrastructure development as a result of mining activities through schools (71.1%), clinics (49.4%), roads (31.6%), water and electricity (28.7%). One community member highlighted that the construction of the Oranjemund- Rosh Pinah road resulted in increased tourist visits and trade facilitation in the region, although the construction of this road was for the benefit of the mines it has had an impact on the community at large in terms of local businesses. However, 19.4% of respondents denied that such benefits were as a result of mining as they indicated none to this question. This can also mean that such respondents are either unaware that such developments were brought by the mines¹³ as part of their corporate social responsibilities towards the community.

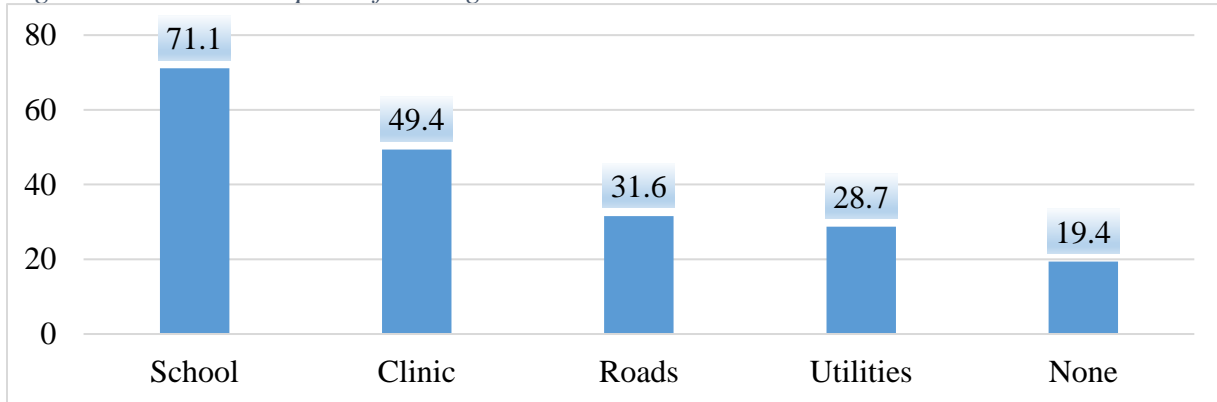
¹¹ Cheetah (Whale Rock)

¹² Rossing, Husab

¹³ Mostly those who lived less than a year

Apart from infrastructure development, another benefit to the community include employee household repairs whereby the mine had to replace asbestos roofing with zinc as it was reported to be unhealthy for the people.

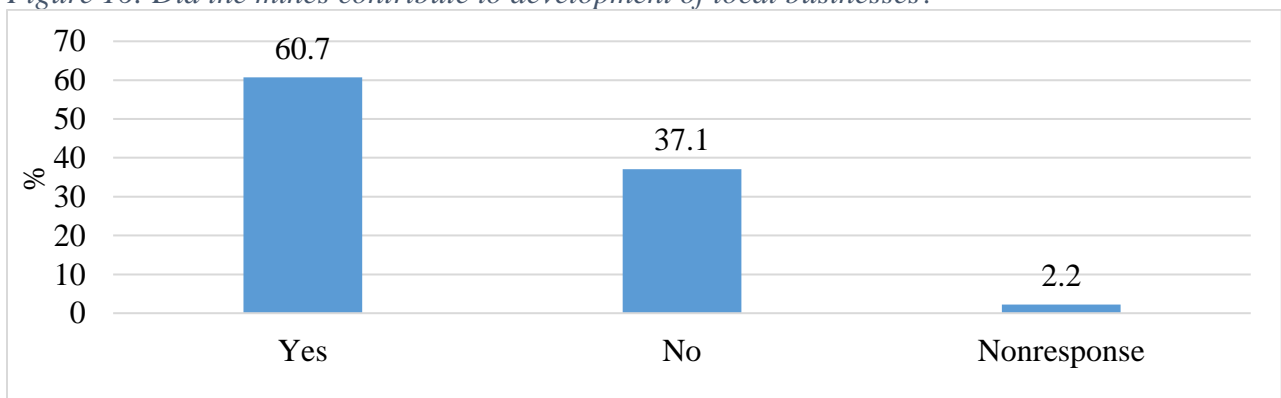
Figure 15: Positive Impact of mining



Source: Author's generation using SPSS

Ideally, when a mine is established, the expectations by Government and local communities is such that mining companies will uplift entrepreneurial activities in the community by providing opportunities to supply materials and services to mining companies, miners and their families. This process creates an opportunity for local communities to generate income to enhance their quality of life and those around them. About 60.7% respondents indicated that mining companies have contributed to the development of local businesses in the towns, 37.1% of respondents said “no” and 2.2% did not respond to the question. The interviewees pointed out that the mines offer sponsorship to small and medium enterprises (SMEs) through expos whereby the local community can show case their products. Mining companies also purchase goods and services from local suppliers such as catering services. Financial literacy trainings are offered to local businesses from time to time. Lastly, the respondents stated that rental property has also increased as a result of people migrating to these mine towns for greener pastures, all these were attributed to mining activities in those towns.

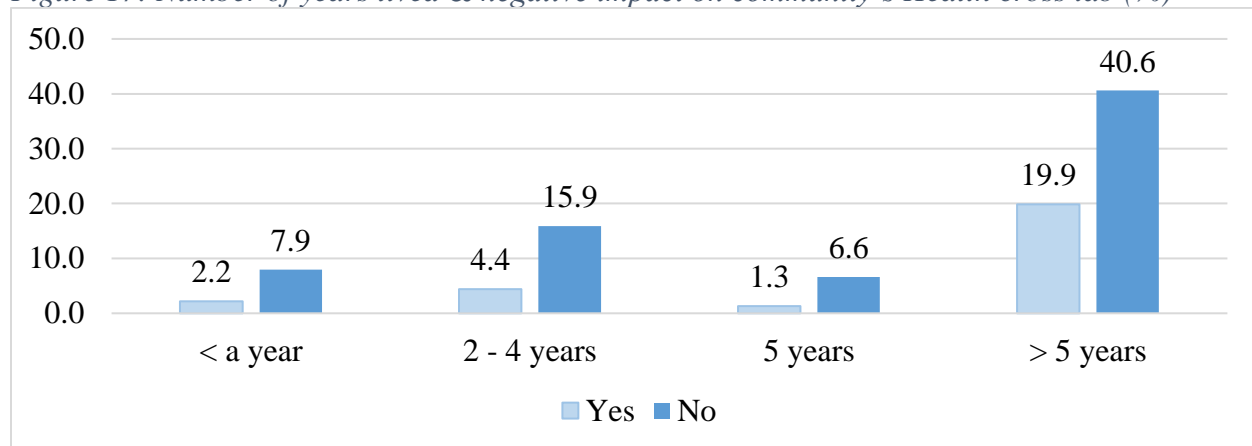
Figure 16: Did the mines contribute to development of local businesses?



Source: Author's generation using SPSS

The figure 17 tries to give a picture of the respondent’s knowledge and understanding of the mining activities effect on the community’s health by way of number of years the individual has lived in the area. Most respondents denied being negatively affected by the mine in terms of their health. This means that, regardless of the number of years lived in the surrounding area, mining activities have not affected the community member’s health as even those who have lived in the area for more than 5 years disagreed with this question. Most respondents indicated that they lived a bit far from the mine thus were not exposed to any form of harm. Those that replied “yes” to being affected, stated that they were exposed to unsafe working conditions, dust, cancer due to radiation and blasting vibrations. Frequent blasting vibrations are causing damage to the community’s properties as most of their houses have cracks which is a financial burden to the community.

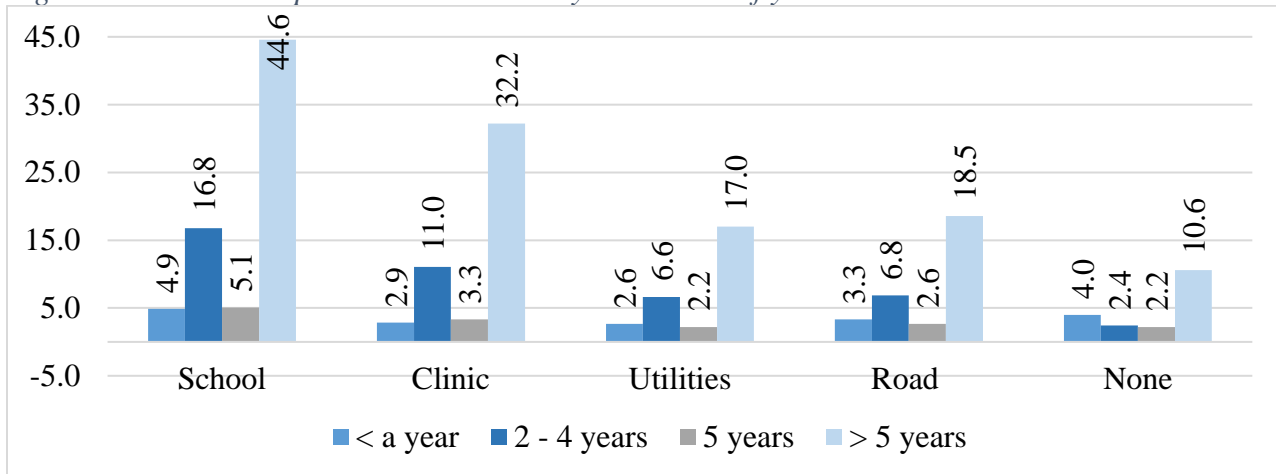
Figure 17: Number of years lived & negative impact on community’s Health cross tab (%)



Source: Author’s generation using SPSS

The most direct benefit from mining is employment, however not everyone can benefit from this, but local communities can benefit through investments in infrastructure set up in the form of public schools, health clinics, water supply systems and transport. Although the community have benefited through employment, the respondents raised concerns of being exploited as they are paid less and work in poor conditions whereby some workers still sleep on the floor and still use bucket system. There were mixed responses regarding the mining companies’ infrastructure development to the community. Notable is the fact that those who lived in the area for more than 5 years agreed that mining has brought about schools, clinics, electricity and water as well as roads relative to those that have lived in the area for less than a year. However, some respondents denied that the infrastructural projects in the areas were as a result of the mines. This can be attributed to the fact that these respondents were either not aware of such or they just recently moved to the area. Whilst these infrastructural efforts, the community still felt that they were minimal, and more could be provided in terms of sustainable projects beyond mining closure. The respondents felt that the mines do not engage or interact with the community to know about the community’s needs.

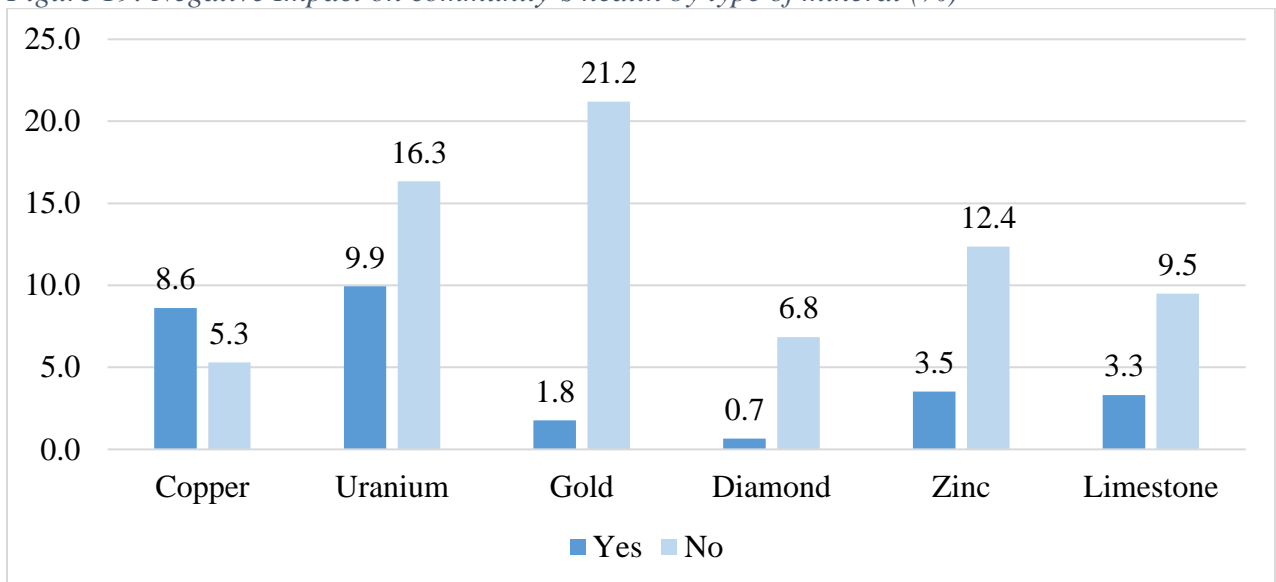
Figure 18: Positive impact on the community & Number of years lived cross tabulation



Source: Author's generation using SPSS

Mining activities may bring about tremendous health and safety concerns especially for the employees of the mines. Employees are at the risk of being injured, permanent disabilities that may arise as a result of chemicals or machines used in the mines depending on the type of minerals being mined. It is therefore important that their health and safety is always protected. Figure 19 examines to see which type of mineral has more negative impact on the community's health. Looking at the figure, those who live in towns where copper is mined are more affected as compared to other towns. This could be explained by the fact that most respondents indicated that they lived far from the mines except for the copper town whereby the mine is located closer to town.

Figure 19: Negative Impact on community's health by type of mineral (%)



Source: Author's generation using SPSS

12.1.6 What should the mine do to improve community's livelihood?

The respondents felt what the mining companies have done so far is minimal and more can still be done on the following:

- ✚ Create more employment
- ✚ Improve working environment
- ✚ Comply with Namibian labour law, pay market related salaries.
- ✚ Build emergency clinic on site
- ✚ Provide medical aid benefits to their employees
- ✚ Offer internships to Vocational training students
- ✚ Invest more in sports education to reduce crime.

Furthermore, mining companies should introduce sustainable projects to the community beyond mining life span, look into electricity generation e.g. Solar power and invest in agricultural projects to feed the needy.

12.2 Dimension stones industry

Positive impact and developments brought by the mines in the community

The dimension stone industry has provided employment opportunities to the community of Karibib and other towns. Local business has also improved slightly as a result. The town of Karibib has developed over the years and most youth especially males have been employed “*says community members*”. The mines in the area has led to Influx of people from other regions seeking for opportunities, therefore unemployment in the region is still high.

Nothing much was done by the industry in terms of corporate social responsibility except a clinic and a primary school that were upgraded in Omatjete.



Figure 20: Kitchen

Impact on the environment

The major environmental impacts are of a visual nature. Bewiadzi et al (2018) asserts that the major environmental impact is disruption of animal habitats, soil erosion, vibration and dust pollution.

All mines agreed to have an environmental impact assessment in place, and they do inspections. However, when you walk around the mining area, there are many pits that were previously mined and never rehabilitated. The mine owners said they moved from pit to pit depending on the type of mine demanded at that time, but some larger pits were left open many years ago and nothing was done to rehabilitate them. The safeguarding of the environment and heritage places is of utmost importance, thus they should be protected from damage for the future generation of this country. Mining sites should be restored, failure to do so mining companies should be held accountable.

Impact on Health of the workers and community

To keep up with the health of the workers, some mines ensured that there's Personal Protective Equipment (PPE) in place, mostly clothing, boots and dust masks. Some employees, however, complained of no proper PPE where they are working. Employees also go for yearly medical check-ups although most of them complained that they don't see their results.

Challenges faced by employees

- ✚ There is no proper safety clothing
- ✚ No resting during weekends
- ✚ Infectious diseases resulting from sharing gum boots
- ✚ Overcrowded-too many people stay in one room at the quarry and the condition is not good as there is too much dust in the kitchen and rooms.
- ✚ No transport provided for workers when they go on leave or when sick to go to the clinic
- ✚ Some workers are not paid for the job out of their job description (they are given more work, but salary stays the same)
- ✚ Employees are kept on contract for more than 2 years
- ✚ Employees have been employed for more than 10 years and still considered unskilled, thus affecting their salaries
- ✚ Bad toilets
- ✚ Workers are forced to stay at the quarry where accommodation is not up to standard and too much dust



Figure 21: Pit latrine



Figure 22: Sleeping room

What do you think the mine should do to improve the community's livelihood?

Employee's voices

- ✚ There is now better accommodation at some mines because workers used to sleep on slabs. But there is still a need for proper accommodation. However, the improved conditions came after the workers representatives (union) paid a visit to these mines.
- ✚ Provide water and electricity to the community
- ✚ Giving donation of mosquito nets
- ✚ Better salary and housing facilities
- ✚ Build the employees houses at Karibib not at the quarry
- ✚ Recruit people from the local community
- ✚ Be involved in the community's local projects by helping town council to develop the community
- ✚ Create more jobs
- ✚ Medical benefits and housing allowance
- ✚ Consider workers skilled after a certain period of time once the skill is transferred.

Challenges in the dimension stone industry

The dimension stone industry sales heavily rely on global markets and the grade being mined. A larger percentage of the dimension stone industry in Namibia is dominated by big Chinese companies making it difficult to compete with a few aspiring Namibians in the sector. It is very difficult for a small Namibian business to compete on equal footing with the well-established big Chinese companies who may already be enjoying significant economies of scale.

Namibian companies usually procure their inputs domestically and the money remain in the economy while foreign companies go home with their profits.

The Dimension mining sector profitability mainly strives on potential client markets and demands depending on the Market trends. Dimension Stone is a decorative material suitable for any indoor or outdoor stone product design and if a product mined on high scale is not in demand, this will affect the profitability of the mine. If the focus will be on boosting production with no potential customer or demand- the material may end up laying dormant after removal and may result in high losses for the mine.

Another challenge is the removal or transportation of the product mined-due to high transportation costs. With the high transportation costs, some mines have started to use the railway in Karibib to minimize costs, however, this is a more time-consuming manner which may slow down processes and logistics and may affect the mines profitability

The international Market has a lower demand in Marble and Granite (Dimension Stone), they are slowly introducing engineered stone to the market and this has decreased the interest in the Dimension Stone Product which is a natural stone.

The processed and unprocessed stones are usually exported and not really used domestically because they are very expensive.

13. CONCLUSION

Most developing economies including Namibia continue to be engaged in the mining industry because of revenue it generates to the economy, job opportunities, education, building of towns etc. Generally, the mining industry has inherent impacts which are both negative and positive.

While positive impacts are welcomed there are also negative aspects of mining such as environmental degradation, exploitation of workers and diseases. People that worked in the mine for a long time are suffering from asthma and cancer. Emissions of chemicals which lead to contamination of the area, noise pollution and underground vibrations as a result of blasting are some of the environmental and health effect.

Despite emphasis of rehabilitation in the minerals and environmental acts, there is non-compliance as mining sites are left abandoned, this was mainly observed in the dimension stone industry.

The important question raised is whether local communities benefited from mining considering its sizeable contribution to the government coffers. Mining appears to largely fail to benefit the local community even if it is clearly stated in the Namibian mining charter that mining companies should contribute to the transformation and upliftment of the communities in which they operate. The impact is more felt on a macro level.

Researchers assert that the average corporate tax rate in Namibia is high compared to international standards. Botswana is said to have the best mining environment in Africa. Studies found evidence of more government influence in mining operations in Botswana as compared to its peers within SADC¹⁴ region.

The study reveals that challenges in the mining sector itself exist around commodity prices and utility cost. The current economic recession and lack of infrastructure development puts pressure on mining. In addition, low industrialization in Africa, transportation cost/fuel and depleting resources are other challenges. The local community also do face challenges of cheap labour, unfair treatment and salary discrepancies.

The year 2018 observed retrenchments in mines and mining activities going on care and maintenance. Of course, it's not surprising because in times of low commodity prices mining companies place their mining projects on care and maintenance to save cost.

On whether natural resources are a blessing or a curse to a country that owns them, the case of Namibia can be looked at from both sides. Based on the findings of this paper, it is notable that the mining sector has been the biggest contributor to GDP over the years, it has also brought about

¹⁴ Southern Africa Development Community

infrastructure in terms of schools, clinics, water as well as electricity. On this note, it can be regarded as a blessing to the country on the back of these positive developments. On the other hand, Namibia despite being a resource rich country, it does not own its minerals¹⁵, thus one would regard it as a resource curse such that with all major mines combined, an average of 11.9% of shareholding belongs to Namibia while 88.1% are foreign owned. The situation might be worse off in the near future as foreigners might have full ownership of these mines thereby influence policy developments. Where do we draw the line? Mining activities come with environmental effects such as permanent damage to the environment and diseases. Moreover, apart from cement, salt and somewhat diamond, most mining products are exported either in concentrates or without value added.

Finally, Namibia did not fully reap much benefits from the mines as majority of the shares are foreign owned whose supplies of capital goods and equipment's are imported because they are not manufactured in Namibia.

14. RECOMMENDATIONS

Based on the findings and conclusions, the study makes the following main recommendations:

Although the Minerals (Prospecting and Mining) Act, Act no. 33 of 1992 requires mining companies to provide detailed rehabilitation after the closure of the mines, most miners do not rehabilitate, and nothing has been done so far. This was mainly observed in the dimension stone industry where pits are left abandoned. Government should enforced measures on mining closure and detailed mining rehabilitation policy and monitoring strategy to ensure compliance.

Given that most policies and regulations are outdated, government should fast track the review and finalization of these policies to ensure that they remain internationally competitive. Several key policies and legislation are in the process of updating and reviewing and their finalisation and implementation need to be prioritised¹⁶. This includes the Mineral Policy, Pollution Control and Waste Management Bill and Mine and Health Safety Regulations

Miners and their representatives are not happy that the mines continue to outsource labour if there is no government intervention. The issue of outsourcing should be addressed because there is less of sense of permanence or security for everyone because jobs are under fly-in fly-out conditions¹⁷.

There is a concern of under-reporting and uncertainty with production figures. Since royalties depends on production, production figures should be monitored to ensure that all information are recorded. To ascertain that correct information is received, the government should verify information received from the mines by commissioning an industrial audit in order to verify independently the production and expense data by the mining industries.

¹⁵ With the exemption of Namdeb whos ownership is 50:50

¹⁶ IGF (2018)

¹⁷ Tserenbaljir, B. (2016). State of outsourcing in the mining industry: an overview

Deliberate violations of mine workers as they face challenges of poor health, safety and poor socioeconomic and substandard living conditions, despite legislation being implemented. To safeguard safe operations and a health and safe working conditions, the government should ensure that mines are complying with the regulation and labour standards. Although on paper appear generally compliant there is a significant gap in implementation. A holistic monitoring strategy is crucial in this regard.

Transparency and traceability of mining revenue ends at the contribution published in the National budget and local communities don't see visible development benefits coming out of mining. There is a need for strong regulatory frameworks and competent institutions otherwise transparency is unlikely to achieve sustainable development outcomes. Sound and sustainable fiscal regimes are key to translate resources wealth into sustainable development outcomes. Initiatives on transparency of natural resources management¹⁸ can be used to increase accountability and avoid "resource curse."¹⁹ In addition, government should ensure that at least part of the revenue generated from mining are redistributed to regions where mining activities are located by investing into:

- ✚ Economic diversification
- ✚ Further processing
- ✚ Upgrading of infrastructure

There are miners that worked for many years and feels they have acquired all necessary skills, but they are still getting the same salary. It is therefore recommended that mining companies recognise their employee's skills, how long does an employee have to work to be recognised as skilled. Requirements should be clearly stated and made known to the employees.

¹⁸ Extractive Industries Transparency Initiative (EITI)

¹⁹ Adopted from Chene.M (2017) Natural resource management transparency and governance A literature review focusing on extractive industries

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ANNEX 1: EMPLOYMENT STATISTICS

	<u>Employment statistics</u>													
	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
<u>Chamber of Mines</u>	9854	9693	9412	8119	7960	7427	5513	6103	5948	6564	6940	7330	7543	<u>7627</u>
<u>NSA LFS</u>								3868				7563		

	<u>Employment statistics</u>												
	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
<u>Chamber of Mines</u>	7627	8105	7136	6281	6800	6929	7633	7439	7583	8259	9143	9390	8940
<u>NSA LFS</u>			8894				11240	13558	14539		14825		12087

ANNEX 2: QUESTIONNAIRE (MINING COMMUNITY)



REPUBLIC OF NAMIBIA
OFFICE OF THE PRESIDENT

NATIONAL PLANNING COMMISSION

MINING SOCIO-ECONOMIC IMPACT SURVEY 2019

Purpose of the survey

The purpose of the survey is to evaluate the mining sector's contribution to society, beyond the ordinary economic value added, educate people on the nature of mining industries and assess the socio-economic impact and challenges of mining. Results of the survey will be used mainly for research purposes.

Confidentiality

Your completed questionnaire remains confidential to the National Planning Commission. Your response will not be shared with any institution.

General information

Name of Person Completing Questionnaire:	
Phone Number:	E-mail:
Name of Mine:	
Location (Town):	
Minerals currently being mined:	

Socio-economic analysis

How many years have you lived in this area?

Less than a year	
2 to 4 years	
5 years	
More than 5 years	

If more than 5 Years what changes have you observed in the area over time?

Have you been displaced as a result of mining/quarrying?

Yes No

If yes, what kind of compensation did you receive?

Health

Has the health of the local community been negatively affected by the mine/quarry?

Yes No

If yes, explain

What measures were put in place to lessen the impact?

Community resources

Has the mine or quarry damaged resources that were previously used by the local community to support their livelihoods?

Yes No

If yes, explain

How did the mine or quarry responded to the situation?

Local infrastructure & livelihood

What positive impact has the mine had in your area? Please tick

1	Schools	
2	Health center/Clinic	
3	Road	
4	Water & electricity	
6	None	

What do you think the mine should do to improve the community's livelihood?

Environmental and social nuisance

What environmental effects the community might be suffering from as a results of mining/quarrying?

Local businesses

Has the mine contributed to the development of local businesses?

Yes No

If yes, explain

Any other information you would like to share

Thank you!

ANNEX 3: QUESTIONNAIRE (MINING MANAGER)



REPUBLIC OF NAMIBIA
OFFICE OF THE PRESIDENT

NATIONAL PLANNING COMMISSION

MINING SOCIO-ECONOMIC IMPACT SURVEY 2019

Purpose of the survey

The purpose of the survey is to evaluate the mining sector's contribution to society, beyond the ordinary economic value added, educate people on the nature of mining industries and assess the socio-economic impact and challenges of mining. Results of the survey will be used mainly for research purpose and to complete estimates of Gross Domestic Products (GDP), which is used to develop and monitor government policies.

Confidentiality

Your completed questionnaire remain confidential to the National Planning Commission. Your response will not be shared with any institution.

Contact details

If you have any problem completing this questionnaire, please contact Mrs. Victoria Nambinga at:

Telephone number: 061 283 4165

E-mail address: vnambinga@npc.gov.na

Organization Profile

Full Organization Name:	
Name of Person Completing Questionnaire:	
Phone Number:	E-mail:
Name of Mine:	

Location (Town):
Minerals currently being mined:

Mine ownership

Ownership of mine	Company's country of origin	Shareholding (%)

Production

Minerals produced

1. _____ 2. _____ 3. _____

Years	Minerals	Production figures
2012		
2013		
2014		
2015		
2016		
2017		
2018		
2019		
2020		

2021		
2022		

Socio-economic analysis

Employment

How employment has changed over the years, and how it is expected to change in the future

Years	#employees	Permanent	Temporary / contract
2012			
2013			
2014			
2015			
2016			
2017			
2018			
2019			
2020			
2021			
2022			

Health

Has the health of the local community been affected by the mine/quarry?

Yes No

If yes, explain

What measures were put in place to lessen the impact?

Community resources

Has the mine or quarry used or damaged resources that were previously used by the local community to support their livelihoods?

Yes No

If yes, explain

How has the mine or quarry responded to the situation?

Local infrastructure

What impact has the mine had on local social and economic infrastructure?

Environmental and social nuisance

Namibia has an environment management act for the protection of the environment. What environment management mechanisms have you put in place to protect the environment?

Local businesses

Has the mine contributed to the development of local businesses?

Yes No

If yes, explain

Profile of Supply Chain

How many suppliers are there in total, both domestic and international? _____

What is their level of expenditure? _____

How many of these are based domestically? _____

Future / Prospective Expansion

What is the remaining life of the mine?

Are there any plans to expand the life of the mine?

Operational Risks / Challenges

What are the main risks/challenges to the mine's profitability?

How have the risks/challenges affected the mine's profitability?

Any other information you would like to share

Thank you!