

**EVALUATING THE IMPLEMENTATION OF ENVIRONMENTAL, SOCIAL
AND GOVERNANCE FACTORS IN THE MINING SECTOR: A CASE
STUDY OF NAMIBIA**

by

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DECLARATION

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ABSTRACT

Over the years the demand of sustainability disclosure has grown and companies are moving away from disclosing only based on financial performance. With the demand of investors for companies to consider environmental, social and governance factors in their operation and decision making. The mining companies have obligation to disclose on financial and non-financial instruments to stakeholders. Sustainable mining suggests that mining companies consider the integration of environmental, social and governance (ESG) factors in their business strategies. This warranted the research study to assess the progress made in Namibia as literature review reveal that there are few studies on the integration of ESG practices. Thus, this study explores the extent of ESG consideration in the mining sectors to establish the nature of ESG indicators adopted and the driving force thereof.

This research employed a combination of qualitative and quantitative approaches to answer the research questions. The desktop research was conducted using secondary data from archival data source. In confirming whether ESG is integrated in the mining sector, the research conducted content analyses of sustainability reports using the categorisation of themes as per the Global reporting initiative indicators.

The study found that, the Namibian mining industry have considered ESG practice within their operation to some extent as most of the mining companies have integrated and disclosed on ESG metrics. Many of the examined mining companies have published sustainability reports on the strategies and progress made toward environmental and social factors. Although the regulations are silent on the ESG, the focus in on adopting and integrating sustainable development goals. Therefore, the driving force of ESG in the sector to maintain good reputation, attract investor and complying with regulation. Although, the ESG integration in the sector is lucrative, the regulator needs to adopt ESG in the regulatory framework and create awareness in order to promote ESG and leap long term effect which leads to achieving Sustainable development goals.

Key words: Sustainability reporting, Environmental, Social, Governance, Disclosure, Mining Industry, sustainable Development Goals

OPSOMMING

Oor die jare het die vraag na openbaarmaking van volhoubaarheid gegroei en maatskappye beweeg weg van openbaarmaking oor finansiële prestasie. Met die vraag van beleggers vir maatskappye om omgewings-, maatskaplike en bestuursfaktore in hul bedryf en besluitneming in ag te neem. Die myn maatskappye is verplig om finansiële en nie-finansiële instrumente aan belanghebbendes bekend te maak. Volhoubare mynbou dui daarop dat myn maatskappye die integrasie van omgewings-, maatskaplike en bestuurs- (ESG)-faktore in hul besigheidstrategieë oorweeg. Dit het die navorsingstudie geregtig om die vordering wat in Namibië gemaak is, te evalueer, aangesien literatuuroorsig toon dat daar min studie oor ESG-praktyke-integrasie is. Die studie het dus die omvang van ESG-oorweging in die mynbousektore en die dryfkrag daarby beoordeel.

Hierdie navorsing het 'n kombinasie van kwalitatiewe en kwantitatiewe benadering gebruik om die navorsingsvrae te beantwoord. Die lessenaarnavorsing is uitgevoer met behulp van sekondêre data van argiefdatabrone. Om te bevestig of ESG in die mynbousektor geïntegreer is, het die navorsing inhoudontledings gedoen deur die kategorisering van temas volgens die Global Reporting-inisiatief-aanwysers te gebruik.

Die studie het bevind dat die Namibiese mynbedryf ESG-praktyke binne hul bedrywighede in 'n mate oorweeg het, aangesien die meerderheid van die myn maatskappye geïntegreer het en op ESG-statistieke geopenbaar het. Baie van die ondersoek myn maatskappye het volhoubaarheidsverslae gepubliseer oor die strategieë en vordering wat gemaak is met omgewings- en sosiale faktore. Alhoewel die regulasies swyg oor die ESG, is die fokus op die aanvaarding en integrasie van volhoubare ontwikkelingsdoelwitte. Daarom is die dryfkrag van ESG in die sektor om goeie reputasie te handhaaf, beleggers te lok en aan regulasie te voldoen. Alhoewel die ESG-integrasie in die sektor winsgewend is, moet die reguleerder ESG in die regulatoriese raamwerk aanvaar en bewustheid skep ten einde ESG te bevorder en langtermyn-effek te bevorder wat lei tot die bereiking van volhoubare ontwikkelingsdoelwitte.

Slutelwoorde:

Volhoubaarheidsverslaggewing, Omgewing, Sosiaal, Bestuur, Openbaarmaking, Mynbedryf, Doelwitte vir Volhoubare Ontwikkeling

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ACRONYMS AND ABBREVIATIONS

ACHPR	Africa Charter on Human and Peoples’ Right
AI CSRR	Association for Independence Corporate Sustainability and Responsible
CEDAW	Convention on the Discrimination Against Woman
CFA	Charter Financial Analyst institution
CITES	International Trade in Endangered Species of Wild Fauna and Flora
CSR	Corporate Social Responsibility
DCC	Deutsche Climate Change
E & S	Environmental and Social
ECE	Environmental Capital Expenditure
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
ESG	Environmental, Social & Governance
ESMS	Environmental and Social Management System
ESMF	Environmental and Social Management Framework
GCF	Gross Capital Formation
GDP	Gross Capita Product
GRI	Global Reporting Initiative
ICCPR	International Convention on Civil and Political Rights
ICERD	International Convention of All form of Racial Discrimination
ICESCR	International Convention on Economic, Social and Cultural Rights
ICMM	International Council of Mining and Metals
IFAC	International Federation of Accountants
IFC	International Finance Corporation
IIRC	International Integrated Reporting Council
IRMA	Initiative for Responsible Mining
ISO	International Standards Organization
MAWF	Ministry of Agriculture, Water and Forestry
MEFT	Ministry of Environment Forestry and Tourism

MME	Ministry of Mines and Energy
NBSAP	National Biodiversity Strategy and Action Plan
NCM	Namibia Chamber of Mines
NPC	National Planning Commission
NPD	National Development Plan
PRI	Principal Responsible Investment
RMA	Responsible mining Assurance
RMI	Responsible Minerals Initiatives
PWC	Price Waterhouse Coopers
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investment
ROIC	Return on Invested Capital
ROS	Return On Sale
SASB	Sustainability Assessment and Standards Board
SDG	Sustainable Development Goal
SES	Social and Environmental Standards Policy
TBL	Triple Bottom Line
TSM	Toward Sustainable Mining
UNCCD	United Nation Convention to Combat Decertification
UNCED	United Nation Conference on Environment and Development
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
UNEF	United Nation Environment Finance
UNEP	United Nations Environmental Program
UNEP FI	The United Nations Environment Programme Finance
UNFCCC	United Nation Framework Convention on Climate Change
UNGC	United Nation Global Compact
VDT	Voluntary Disclosure Theory
WCED	World Commission on Environment and Development

CHAPTER ONE: INTRODUCTION

1.1 Background

The world is changing, and all roundtables are focusing on sustainability, the emphasis on corporation to focus their effort to mitigate environmental issues and promote good governance while ensuring that the stakeholders' current and future needs are met (Sauve et al., 2016; Adams et al., 2011).

The history of the concept of sustainability's initially convened with the World Commission on Environment and Development (WCED), an international group of environmental experts, politicians, and civil servants, which was established in 1983 in response to the growing concerns over ozone depletion, global warming, and other environmental issues associated with raising the living standards of the world's population. The Brundtland Commission was then tasked to develop long-term solutions and to promote sustainable development. The Brundtland Report, which presented the idea of sustainable development and outlined how it might be accomplished, was published by the commission in 1987. The 1992 Rio de Janeiro Earth Summit, also known as the UN Conference on Environment and Development (UNCED), which finally resulted in the establishment of the UN Commission for Sustainable Development that same year, was founded on the principles set out in the report. The Summit clarified how business and industry fit within the agenda for sustainable development. The Rio Declaration asserts that because companies become legitimate through satisfying societal requirements, they have a duty to guarantee that operations inside their own operations do not damage the environment.

The idea of sustainable development was introduced with an aim to protect the environment and social need for future generation. The idea of sustainable development began in Norway in 1987 during the WCED conference. It was initially an idea which was clarified by the Brundtland report and brought more understanding of the concept. Since the Brundtland report, policies adjustments were made in order to promote sustainable development (Mebratu, 1998).

Furthermore, the idea revolved and the international organisation the likes of the United Nations Environment Program (UNEP) produced the Statement of Commitment by Financial Institutions to Sustainable Development in 1992.while, in 2001, the European Commission issued a report titled Promoting a European Framework for Corporate Social Responsibility. CSR is a business strategy which embraces social and environmental aspect. The Thereafter, the term ESG was

coined in a landmark report titled *Who Cares Wins* in 2004. The *Who Cares Wins* report recommended that corporations better incorporate environmental, social, and governance (ESG) aspects into their structures and operations. The assumption was that organisations that performed better in the ESG area would boost shareholder value (Eccles et al., 2007)

Since then, this concept developed and investors are now demanding corporations to report on Environmental, Social and Governance (ESG) as good practice of sustainability. Various scholars and researchers have deliberated that firms' good standing on ESG reporting improves the firm's financial performance (Parmer et al., 2010). Not only the firm's financial performance is a concern, but its main objective is to reduce environmental impact associated with development and promote the sustainable wellbeing of society and promoting good governance. Galbreath (2013) states that frameworks are developed, and performance standards are set for corporations to implement the environmental, social and governance factors in order to identify and monitor environmental and social risks. The effectiveness of implementing of the environmental and social management system assists in evaluating, controlling and constant improving environmental and social performance. Thereby, contributing to good governance, attracting investors and improving financial performance of the corporations (Schaltgger & Wagner, 2017).

Hummels and Timmer (2004) states that investors are demanding listed corporations to report on more than just financial performance in order to make informed investment choices. Corporations must explicitly report on their non-financial performance, with a focus on ESG factors, in addition to these measures (Vives & Wadhwa, 2012; Renneboog et al., 2008). The investors assess a broad variety of ESG factors. The most crucial factors are on how corporations operate in relation to social good, environmental protection, sustainable development, and human rights (Lokuwaduge & Heenetigala, 2017). Renneboog et al. (2008) recommended businesses to manage their ESG aspects effectively, noting that strong management of corporate governance, all stakeholders, and the environment serves as a reliable indicator of management quality.

Namibia is not an exception, in fact, it's one of the countries that responded to the global call of adopting sustainable development. The concept is deliberated during planning and national policies as well as with regards to development activities. Namibia has developed and enacted environmental laws and regulations which aimed at protecting the environment, promoting accountability while considering economic and social factors of project development.

ESG is a new concept in Namibia, and it is aligned with the Sustainable Development Goals (SDGs). Namibia's sustainable development efforts, such as Vision 2030, the Harambee Prosperity Plans 1 and 2, and the National Development Plan 5, serve as a guidance for Namibia's ESG program, in part (Recon Africa report, 2021). The firms are expected to have informed a carbon neutral strategy and aligning its objective with the UN Sustainable Development Targets and Net Zero goals. As part of this strategy, it has started measuring greenhouse gas emissions for scheduled activities (Chelawat & Trivedi, 2016).

Many of the sector are slowly integrating ESG factors in their operation and in the corporation policies. This is the case with the mining industry in Namibia, although it's not known to what extent ESG is integrated in the corporations' operation and policies. Thus, this study chose to assess the extent of implementation of environmental social and governance in Namibia. The researcher aimed to establish the efforts of mines in Namibia in conserving the environment and improve the welfare of our people through the environmental and social management system as well good governance. At the same time, informing decision makers on how much our private sector is investing to insure sustainability.

The mining industry is one of the sectors that significantly contribute to the Namibian Economic growth and it also one of the destructive because of the nature of its operation. It's fundamental for the industry to keep up with the obligation of complying with environmental legal requirement as well as international obligation to invest in ESG to keep abreast with investors requirement and uphold the environment and social responsibility while strengthening good governance.

1.2 Research problem

Limited academic research has been conducted on ESG practice in Namibia. Little of the research related to ESG focused on environmental reporting, private equity and responsible investment (De Klerk, 2017). While, internationally, the link between company financial performance and sustainability reporting is the focus of several academic studies (Atan et al., 2016; Xie et al., 2019; Almeyda & Darmansyah, 2019; Molin-Azorin et al., 2009; Ameer & Othman, 2012; Friede et al., 2015). No research has been conducted on the extent of environmental, social, and governance principles implementation in Namibia since ESG is a novel idea on the emerging market in Namibia.

Literature reviewed confirmed there also limited research conducted on ESG practice in the mining industry (De Klerk, 2017). Even though, the mining industry contributes to economic growth and job creation, it has a poor record when it comes to the effects it has on people and the environment. Acid mine drainage and the consumption of significant amounts of water are examples of pollution-created environmental problems in the metals and mining sector. The risks related to an employee's health and safety connected with the working environment. This sector was selected because it had been claimed that businesses in high-impact industries, like this one, should produce in-depth ESG reports for the benefit of their stakeholders (Gasperini et al., 2012). Thus, the purpose of this study is to determine whether the ESG principle has been integrated in the mining industry. The study focuses on evaluating the extent of the environmental, social, and governance principle in the mining sector rather than the impact of ESG on financial performance since this is a relatively new concept and the influence may not be felt. Also, to establish the factors that influence the ESG disclosure.

1.3 Research objectives

Having stated the above, the primary goal of this study was to explore the ESG principle adopted in the Namibian mining industry. To inform decision-maker on the status of sustainability in the mining sector. The following are the study's objectives:

- to investigate the extent of ESG practices in the Namibian mining sector;
- to assess the factors that influence ESG practice in the mining industry.

In order to archive the objective of the study, the following questions were developed to assess the standard requirements and framework leading the Environmental Social and Governance factors integrated in the management system by individual mining company, the status and the driving force thereof. The following were the research questions:

1. What are the sustainability reporting framework implemented by mining companies in Namibia?
2. What are the ESG factors that the mining companies have integrated into their business operations?
3. What is the driving force for ESG in Namibian mining industry?

1.4 Research methodology

This section presents a broad approach of research methodology that employed by the researcher while the in-depth version is discussed in chapter 3 of this study.

1.4.1 Research philosophy

The researcher adopted the positivistic research approaches. The positivistic is a deductive approach that can utilize quantitative data (Blumberg et al., 2011). This philosophy allowed the researcher to use qualitative approach. The data used is form the secondary sources about the viewpoints regarding sustainability and ESG found in the sustainability reports of individual mining companies.

For the purpose of this study a deductive approach was adopted which flows form general point (the theory) to a particular point (the empirical research). Trochim (2011) states that when research advances from, for instance, theory connected to a subject that leads to the formulation and testing of hypotheses – the positivistic research philosophy should be used. This strategy is commonly known as the "top-down" strategy. This approach also enabled the collection and analysis of secondary data that existed and readily available although collected for a different purpose. While, the inductive approach is an opposite of the deductive approaches, since it starts with observations and progresses to the development of conclusions or hypotheses based on observable patterns.

1.4.2 Research design

Blumberg et al. (2011) defined the research study as a layout of the method and process employed in the research study in order to acquires the desired outcomes, in achieving the research objective and answering research questions. The selected research design helps the researcher to formulate suitable research methodology depending on the research objective.

This study uses an exploratory methodology complemented by a comparative design to collect and analyse publicly accessible company information. This research utilised secondary sources for data collection and employs the systematic approach to understand the ESG framework. For this study, both qualitative and quantitative data were gathered. The numerical and text case data

were collected to complement one another in order to obtain the pertinent data for documenting the research aim and goals and answering the research questions.

To test the ESG integration by the mining companies, the study employs the systematic approach through content analysis of the sustainability report. The sustainability reports were used as a tool for accountability utilised by mining companies international which is done in accordance with the Global Reporting Initiative. The Sustainability Reports were sources from the specific miners' open-access websites and quantitative data from the Annual Reviews Reports of the Chamber of Mines (2017, 2018, 2019, 2020, 2021) as the member organisation responsible for the stewardship and promotion of mines in Namibia.

1.4.3 Population and sampling procedure

Zikmund et al. (2013) defined data collection as process of acquiring the necessary information for research; it is often impacted by the sampling plan. He further emphasises that identification of the population is the initial step before in the sampling plan. A population is comprised of individuals, corporations, or other relevant respondents to a research study who have similar traits and might be included in the study. Researchers employ samples since it is often hard to contact the whole population. Samples are defined as a subset of the whole population (Struwig & Stead, 2007).

The researcher can either apply the two sampling techniques, probability or non-probability sampling. Probability sampling refers to a procedure in which each unit of a population has a high possibility of being selected for research. Non-probability sampling is a procedure in which the likelihood that a unit of the population will be picked for an investigation is unknown. for each approach, researchers have procedures (Blumberg et al., 2011; Struwig & Stead, 2007).

Having said the above, for the purpose of this study, the researcher drawn a sample of participating mines from the database of the Ministry of Mines and Energy and the Namibian Chamber of Mines. The researcher targeted the large-scale mines in the nuclear fuel, metals, and rare metals industry. The population of the mining company registered with the Ministry of Mines and Energy consist of 18 mining company. The rule of thumb applies, as the number of mining population registered is not significant, non-sampling technique apply so the whole population was considered for the study. However, only 18 out of 20 mining companies had Sustainability Reports available on their respective websites of which were analysed.

1.4.4 Data collection

According to Bryman and Bell (2014), the data analysis methods for qualitative research include narrative analysis in which content, word usage, and themes are examined in addition to understanding the social contexts of the narrative as well as content analysis in which printed text and documents are analysed to build emerging themes, coding in which prominent themes and patterns in the data are identified, and statistics in which the patterns are summarised and analysed. The researcher reviewed the literature of academic articles and journals, reports and books related to ESG practices and sustainability reporting.

The dataset checklist was designed in accordance with the Global Reporting Initiative indicators and used to gather data for the sampled mines. The data used were obtained from an internet database that may be accessed without authorisation, since they are neither sensitive nor restricted and pose no major ethical concerns. Since the material is derived from corporate sources, the researcher took notice of the fact that it was gathered for corporate purposes and may be influenced by corporate viewpoints. To ensure balance and eliminate bias, the information was triangulated with information from regulators.

1.5 Research Outline

The research study is divided into Seven chapters. The second chapter provides a literature analysis of works by different researchers that examine the topic of ESG practice and sustainability. The chapter breaks down the topic around environmental, social, and governance definitions, history and development, practices, and the cost and value of sustainability reporting. The chapter concludes with a study of the mining industry in Namibia.

Chapter three discusses pertinent ideas supporting or opposing sustainability reporting and good governance. The chapter went on to examine the theories and legal frameworks that regulate the mining sector, as well as whether the existing regulations promote sustainability and good governance.

The fourth chapter provides information on data collection and analysis methods. First, address the methodology and plan for study. Discuss in further detail the data collection and analysis methods, as well as population and sampling, which culminated in data reliability and validation.

Chapter five is the findings chapter, which presents the study's research outcomes. Moreover, chapter six present the discussion of the result. While chapter seven concludes the study purpose and addresses the research questions. Followed by recommendations and suggestions for future generations.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section will start off by presenting the definition for sustainability, sustainability development, the systems of ESG disclosure that is crucial for understanding and aligning it with this study objective. The study will also discuss the element of sustainability reporting, which include the environmental, social and governance, and the factors that influence them. Furthermore, the literature review will discuss keys elements in the ESG implementation. It will also, review the measures of environmental Social and Governance performance. Thereafter, it will discuss the historical and development of ESG disclosure, focusing on the cost-benefit analyses of reporting on ESG and driving force for ESG in general of. Lastly discuss the sustainability reporting and conclude with the laws and regulation in the country.

2.2 Sustainability and Sustainable Development

Sustainable development is signified by sustainability, academics referred to sustainability in literature. Signitzer and Prexl (2007) outline sustainable development as corporate sustainability which they further breakdown to illustrate related terms as indicated below:

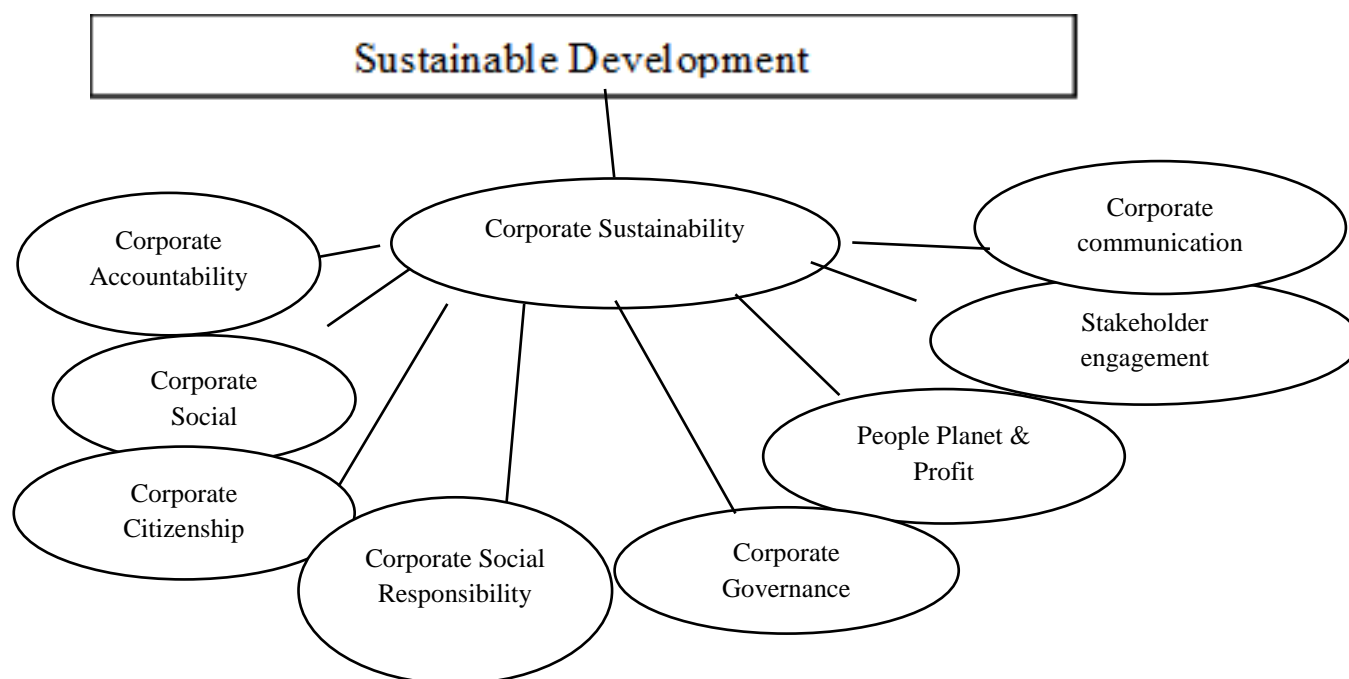


Figure 1 Sustainability pillars

Source: Signitzer & Prexl (2007:4)

Various researchers discussed the concept of sustainability from different perspectives. However, the starting point is delivered from a document titled “Our Common Future Report on Sustainable Development”, is defined as “the development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987 as cited in Mebratu 1998:505). Subsequently, sustainable development has attained much attention from numerous organisations, societies and commerce to the extent that it has become an obligatory part of furthermost legal documents of government institutions, businesses and international agencies.

Sustainability is defined in several disciplines studies which varies from economics (Hobbs & Schneller, 2012; Aquilani et al., 2018; Epstein, 2018), accounting (Adams & Whelan, 2009; Schaltegger & Wagner, 2017; Diebecker & Sommer, 2017; Braam & Peeters, 2018; Lee & Schaltegger, 2018), and management (Porter & Siggelkow, 2008; Hahn et al., 2014; Baumgartner & Rauter, 2017; Epstein, 2018). All the above defined sustainability in different aspect in attempting to narrow it to their respective discipline.

Sustainable development, according to Pfeffer (2010) can be understood as development that balances social, environmental and economic factors and distinct sustainability as an effort to preserve natural resources while avoiding waste in the company operations. In the same line, Schaltegger and Wagner (2017) also defined sustainability as consumption choices that impact the environment and consider the earth’s finite resources. While Ameer and Othman (2011) define it as matter associated with the effect of current actions on the future ecosystem, societies and environment at large. In many studies, sustainability focuses on mainly three elements, which include environmental, social management that are integrated in corporate strategy of governance.

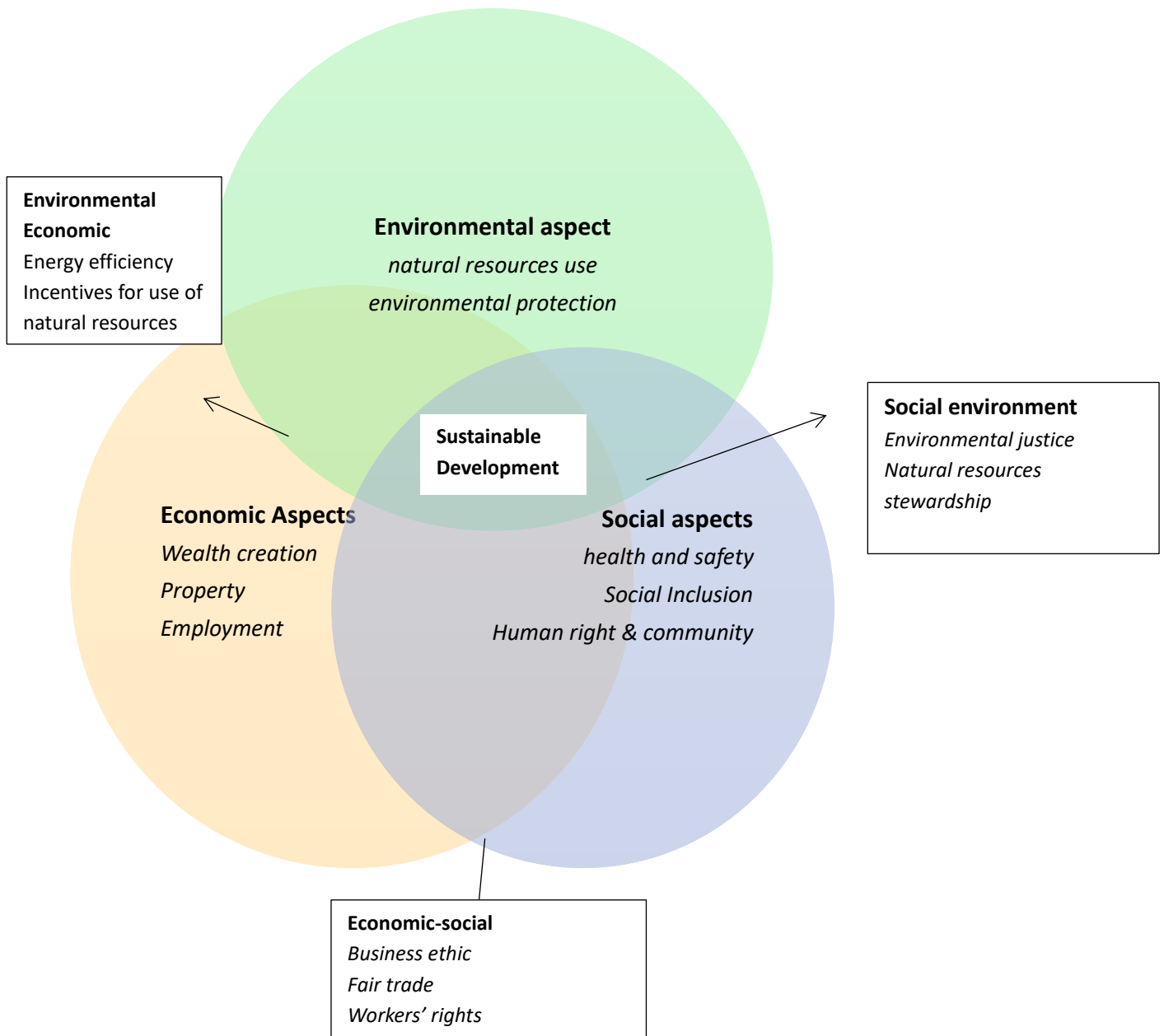
To ensure that all the 3 pillars of sustainability are intergrade and for the purpose of this research, sustainability is defined as meeting the environmental, social and economic needs of the present without compromising the ability of future generations and assuring these needs are met through the adoption corporate governance practices as redefined by Buallay, (2018).

In Namibia’s perspective, sustainable development is defined in the Environmental Management Act (7 of 2007) (Ministry of Environment & Tourism (MET), 2007:6), as “human use of a natural resource, whether renewable or non-renewable, or the environment, in such a manner that it may equitably yield the greatest benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations including the maintenance

and improvement of the capacity of the environment to produce renewable resources and the natural capacity for regeneration of such resources”. The EMA’s description of sustainable development resonances with that propounded by the Brundtland Commission report. This definition emanates from anthropocentric view of more human benefit as compared to the intrinsic value of non-human and mother nature (Hattingh, 2001:9).

Sustainability is not only about managing environmental, social and governance issues but it goes beyond tapping into strategies that strive to improve long-term effect on shareholder value by identify opportunities and managing the risk associated with environmental and social development within corporation (Esty and Winston, 2008 as cited by Adams et al., nd). In fact, this indicates the environmental performance of a corporation although, sustainability is being sideline by many individual heading corporations as they have minimal understanding on sustainability regardless of market demand and media reporting. Thus, the efforts by the leadership of the corporation determine the level of sustainability in the corporations, which is measured by the environmental performance.

Sustainability in the mining industry is very crucial because of the nature of business operation. The mining operation is complex and connected directly with the environment. In order to assess the mining contributions to sustainability, it is necessary to evaluate data gathered from various ecosystems, regulatory regimes biomes, communities and cultures. In the context of mining corporations, the challenge of sustainability is to merely to set visions and evaluate social, environmental, and economic indicators, further evaluate a multitude of indicators in and throughout complex socio-ecological systems of their geographical area and scales (McKinley, 2008). The following diagram illustrate the link between Sustainable Development and ESG pillars.



Sources: CFA, ESG investing guideline (2021)

Figure 2 The relationship between sustainability development and ESG


2.3 ESG Definition

ESG concept is explained in a variety of contexts, ranging from enhancing risk management to boosting institutional CSR while increasing returns. ESG is defined as the non-financial performance of the companies by Atan et al. (2017). While Emillien (2022) defined ESG as the efforts of the company in mitigating environmental, social and governance issues. According to Heenetigala et al. (2015) investors are curious about how businesses operate and the kinds of investments that are considered. While on the other hand, ESG is defined as a phrase that refers to the explicit integration of environmental, social, and governance issues into asset management decisions by investors (CFA Institute, 2021). In order to accurately

identify, evaluate, and assign the proper value to environmental, social, and economic risks and opportunities, the United Nations Environmental Finance (UNEF) and the United Nations Global Compact (UNGC) developed the concept of responsible investing in consultation with the investment industry and governmental and intergovernmental institutions (CFA Institute, 2021). The term ‘ESG’ was derived from produced report known as “who cares win” initiative of the International Finance Corporation to incorporate ESG into capital market (CFA, 2021).

According to PRI (2020), environmental factors only are primarily concerned with the natural world, whereas social factors refer to variables that have an impact on human livelihoods. Whereas Atan et al. (2017) study emphasised that, investors' environmental concerns include the effects of climate change, natural environmental protection, and environmental impacts associated with business operations. In contrast, social concerns focus on how businesses may contribute to society and respect for human rights, equality, and workplace diversity. The table below indicate how the investors distinctive and shifted from purely "finance-only" investing to ESG consideration and willing to accept returns below market in exchange for the high positive effect the project.

Table 1 Investments Spectrum

Focus 	Social impact investment		Sustainable and Responsible investing
	Social Investing	Impact Investment	ESG investing
	Investing with a focus on social and/or environmental impact and potential anticipated financial return	Investing with the objective to provide quantifiable environmental and/or societal benefit	Develop long-term value by using ESG principles to reduce risks and uncover development possibilities.
	Adopting of ESG indicators and methods		
Return expectation	Social return and below-market financial return	Social return and appropriate market rate	Long-term return in the financial market

Sources: CFA (2021)

2.4 Sustainability Reporting

Sustainability reporting is defined as the non-financial reporting that details information on ESG issues associated with risks and opportunities of the companies that inform investors decision (Murphy & McGrath, 2013). Whereas Global Reporting Initiative (GRI) defines sustainability reporting as "the practice of measuring, disclosing, and being accountable to internal and external stakeholders for organisational performance toward the goal of sustainable development" (GRI, 2006, p. 3). In addition, Almeyda and Darmansyah (2019) highlight the significance of sustainability reporting as an opportunity for mining companies to demonstrate their mining management effectiveness. However, they noted that measuring the quality of ESG reporting is difficult since each mine reports on topics that provide them an advantage, and there are no standard reporting indicators.

The International Integrated Reporting Council (IIRC) framework, the UN (Global Compact), and the Global Reporting Initiative (GRI) framework for non-financial reporting are a few reporting frameworks that address aspects of sustainability reporting. However, these frameworks do not offer reliable measures that are consistent between corporates in a similar or various industries. This, stakeholders find it challenging to assess the environmental performance of these organisations and determine which ones perform better or worse since the information released by corporations varied in terms of substance, boundaries, style, and precision (Kokubu et al., 2002). Furthermore, Romolini et al. (2014) asserted that despite the primary goal of the GRI initiative to improve the disclosure quality of environmental, social, and governance performance, organisations are not required to comply with the guidelines, and companies are free to interpret the guidelines as they see fit, making it even more difficult to assess the quality of ESG disclosure. Inconsistencies and inadequacies resulting from the disparities in ESG data in terms of industries, regions, and nations often weaken investors' judgments (Sjöström & Welford, 2009). This is because various business sectors may utilise different measurement standards. However, the Global Reporting Initiative (GRI) and other international organisations are collaborating to produce performance indicators (McKinley, 2008).

Xie et al. (2019) suggests, based on legitimacy theory, that public pressure compels companies to disclose in order to acquire social legitimacy for their operations, which have major environmental impact. The study further highlighted that communication with stakeholders on a company's responsible initiatives may build positive reputation and distinguish the company by associating it with reliability. The business's excellent repeatability attracts good investors,

a benefit of retaining quality human capital, consumers, and suppliers, which, over time, boosts productivity and the financial performance of the organisation. Below is the summary of the importance of sustainability reporting.

Importance of sustainability reporting

- Ability to effectively communicate the organization's performance internally and externally
- Greater organization-wide understanding of broad environmental problems
- Facilitating the environmental strategy's implementation
- Improved capability to monitor progress toward certain objectives
- Reputational advantages, discovery of cost reductions, improved efficiency, expanded chances for corporate expansion, and improved worker morale.
- Approval to operate and attract
- Ability to communicate plans and standards
- Enhanced overall trustworthiness due to more openness

Source: McKinley (2008); Kokubu et al. (2002); Xie et al. (2019)

Figure 3 Own analyses on sustainability reporting

Brammer and Pavelin (2006) states that corporate disclosures are made with the purpose of morphing the minds of stakeholders for exacerbating the possible profitability of the firm rather than putting in honest efforts to minimise environmental or social damage. Implicitly, it has become imperative to analyse the motivation behind a company's ESG investments, which may be divided into three broad buckets namely environmental, social and governance factors. Thus, providing a ground for examining the evolution of ESG systems in the context of their operation.

2.5 General systems of ESG

Heenetigala et al. (2015) explained that a global multiple indicators have been used to monitor and report on sustainable practice. The systems of sustainable practices include measuring, disclosing, and accounting to internal and external stakeholders on the performance of the organisation regarding the goal of sustainable development. Scholar articles have highlighted the crucial ESG practices that investors consider when making judgments (Folque et al, 2021; Eccles & Viviers, 2011).

Park and Jang (2021) are of the view that environmental, social, and governance concerns are believed to have an impact on how corporation behave when making decision on investment. He agrees with Eccles and Viviers (2011) that factors include climate change, population and corporate social responsibility should be integrated of the triple bottom line of the organisation operation.

The European Federation of Financial Analyst Societies' report from 2009 identified nine ESG factors that must be considered across all industries, including "greenhouse gas emissions, energy efficiency, staff turnover, training, and qualification; workforce maturity, rate of absenteeism, risk of litigation as well as corruption, and returns from new product". The Principal Responsible Investment (PRI) reporting guideline mandates that factors related to the environment, society, and governance be specified separately.

PRI requires institutions to disclose on their ESG practices to increased transparency and thereby enhance the corporate image in the eyes of stakeholders and increase its competitive advantage (Said et al., 2009). Depicted in table 2 below is the system approach adopted to integrate and disclose ESG for sustainability.

Table 2 System Model for ESG Disclosure and Sustainability

System Input for ESG	ESG Framework designed metrics Components	Outcomes
Initiatives employed	Environmental Factors: Greenhouse gas emission Environmental protection expenses waste management principles Water Security	Benefits in terms of saving: resource preservation and usage efficiency

	Mining closure	
Policy and principle of responsible mining	Social Factors: Human rights and community Customer Responsibility Health and Safety Working conditions Labor Standards	Strategies developed
Governance and mandatory disclosure	Corporate Governance Factors: Structure, Profiles, Competence, Culture, Behavior Team Dynamic	Operational performance

Source: Own summary on ESG measures

The following sections will then elaborate the three pillars of ESG in more details:

2.5.1 Environmental measures

Environmental sustainability is delivered from the common definition of sustainable development which emphasise meeting the needs of the current without compromising on the future generation needs. Morelli (2011) study generalise the definition to meeting the resources and services needs of current and future generation without compromising the health of the ecosystems that provide them. Environmental sustainability measure

Environmental sustainability of the corporation is perceived from the view-point of the actions engaged by the organisation to safeguard natural resources and the exertions of protecting the environment. This, other words, means that the undertakings of organisations do not have a negative bearing or undesirably changes the environment (Buallay et al., 2020). The operational activity is guided by the environmental regulation, which outlines measures to manage and monitor environmental impacts. These measures include the environmental impact assessment, come up mitigation measures and minimising the consumption of resources by

employing eco-efficiency technology to reduce pollution and preventing depletion of resources.

According to Nadae et al. (2019), corporations should emphasise on adopting cohesive environmental management ethics as an apparatus to increase environmental performance as they incessantly observe any process expulsion, training employees and carry out environmental audits. While Audouin and de Wet (2012) put across the main concerns that requires articulation to integrate sustainable objectives into environmental valuation, a major point raised involve engaging stakeholders. Organisations in their endeavors of carrying out environmental impact assessment that have a bearing on environmental management systems, should include various stakeholders and ascertain that their contributions on social ecological systems and other developments are assimilated. Moreover, stakeholder engagement would entail altering views relating to the environment as well as how it is valued through enhanced comprehension of the environment and essence of being able to forecast flora and fauna in their traditional viewpoints. An attempt should be made to comprehend several descriptions of development and align them with sustainability objectives (Audouin & de Wet, 2012). In the end, the process should find out potential primary causes of environmental assessment and how these impacts on the comprehension of knowledge.

2.5.2 Social measures

The social dimension of sustainability refers to the efforts that have long-term effect on the welfare of the society (Carroll & Shabana, 2010). It is mainly the action of the corporations in dealing with customers and considering the response of consumer to their product, the social responsibility in the society, the ethical issue related to the business activities and how they respond to human right (Almeyda & Darmansyah, 2019). Researchers emphasise that social responsibility should encompass occupational health and safety standards in corporations so as to make sure that there is a safe work environment, that workers are in acceptable health and that training is an on-going process. This has significant effect on production efficiency of the corporation, the perception of the working environment and company attract good recruitment (Nadae et al., 2019). Meanwhile, the study by (Azorín et al., 2019) rejects the argument proposed by Milton Friedman that corporate social responsibility is about corporation generating money to pay shareholders. This is considered biased, and research suggested the divergent from this argument to proactively insure that social and human resource in corporations is uplifted. The corporations' consideration of social and environmental

approaches will receive favor if managers recognise efforts to improve both the society and environment along with the financial performance.

2.5.3 Governance measures

The governance dimension of sustainability refers to a company's implementation of principles that guide stakeholders in monitoring controls, managing conflicts of interest, and ensuring transparency (Buallay et al., 2020). Good corporate governance guarantees that rules, regulations, and laws, especially those pertaining to economic, environmental, and social concerns, are adhered to and that remedial action is taken to safeguard the long-term sustainability of the company (Breuer & Nau, 2014). Griffin et al. (2014) suggests that well-governed organisations support management in using resources effectively and enhancing performance, hence boosting stakeholder confidence in the firm's profitability, continuity, and sustainability. Corporate governance is an important aspect of sustainability since it ensures the sustainability of a company (Brown & Caylor, 2006).

The governance objective is to provide a system to manage the organisation internally in order to fulfill the demands of stakeholders. The stakeholder theory states that corporations develop good governance to match environmental and social objectives with the economic objective. This is done to assess the performance against those objectives in order to ensure they are translated into actions that meets the expectations of the stakeholders.

Wendt (2015) asserted that when good governance practices are adopted, companies are guaranteed that their operations are on track, able anticipate and solve governance-related concerns which include implementing anti-corruption, anti-bribery and anti-extortion measures, and integrate sustainability into their management decisions. Good governance promotes the reputation of a company. builds or maintains community trust, allowing businesses to continue to exist and prosper. The market, group and institutional pressures.

2.6 Benefits of ESG practice

Heenetigala et al. (2015) highlighted the fact that businesses who effectively adopted the ESG approach saw an increase in financial value as a result of lower production costs and operational risk. This bolsters the argument made by Owen (2007) that it takes a strong business case to implement workable techniques for managing environmental, social, and governance challenges since doing good while doing business is profitable. According to Bonini (2020),

start-up businesses with solid ESG practices maintain a positive reputation among stakeholders, retain top talent, and have fewer chances of being boycotted because they go above and beyond legal requirements. Moreover, Boffo and Patalano (2020) underlined that, under certain conditions, ESG helps organisations improve their risk management and leads to returns that are comparable to financial investment returns. It also helps the company since it is seen as adhering to internationally recognised norms of business behavior, which influences investor and customer choice and has a positive effect on corporate efficiency.

2.7 ESG drivers

The literature has discussed the motive that drive the adoption of ESG practice, and the following are the key drivers that stand out:

The market pressure arises from the external influences that promote ESG integration. Today, investors and analysts exert most of the market pressure (Sievanen et al., 2013), and most businesses have taken a reactive stance toward ESG management (Slager et al., 2012). Slager et al., (2012) further stated that, investment corporation with variable capital and investors with high buying power or high net worth are requesting the incorporation of these characteristics into investment options. The company are now forced to integrate the ESG Management for responsible mining performance rating (Cunha & Samanez, 2012).

According to Paredes-Gazquez et al. (2014), group pressures is the pressure from initiative of the financial market's members to include ESG data into their investment choices. The programs that supporting ESG integration led by professional associations which include the role of the Association for Independent Corporate Sustainability and Responsibility Research (AI CSRR), which impact the work patterns of the profession.

Thirdly, the institutional pressures which implies the force imposed by non-financial market members. The force imposed through voluntary initiative and regulations. The member of voluntarily initiative by Principal Responsible Investment (PRI), are required to gradually integrate ESG concerns into their investing choices. In contrast, there are "strong forces" such as regulation (Paredes-Gazquez et al., 2014).

Table 3 Summarise the ESG Consideration Drivers

Market pressures	<ul style="list-style-type: none"> • Role of the institutional investors; • Role of high Net worth individuals; • Risk management and cost saving related to ESG issues
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	<ul style="list-style-type: none"> • ESG issues for the fulfillment of fiduciary obligations
Group Pressures	<ul style="list-style-type: none"> Initiatives of professional associations Growing awareness on ESG issues in the media. Training for addressing ESG concerns
Institutional pressures	<ul style="list-style-type: none"> Efforts of international organisations Compliance with regulation

Sources: Jemel-Fornetty et al., 2011

2.8 ESG Consideration in the mining sector

As much as investors are demanding the integration of environmental and social metrics with good governance, mining company are also responding positively to the call of responsible mining and investment.

According to McKinley (2008), corporations are indicating optimistic result with regards to investments that benefit society and the environment besides focusing on yielding good economical returns. Corporations, investors and society have realised and took cognisant that profitability is no longer the main criteria for making investment decisions (UNEP, 2007). Gitman et al. (2009) study elaborated those other factors driving ESG consideration is the increase in the cost of environmental and social elements, and the direct correlation between ESG consideration and financial performance of the corporations. This is supported by the fact that experts' and more academics' studies have confirmed the influence that ESG practices have on the long-term basis of the financial performance of companies (Macpherson, 2019).

According to Heenetigala et al. (2015), mining corporations have adopted and set ambitious ESG goals in order to make an immediate impact on the mines as a result of the increased demand by the Principal Responsible Investment (PRI) international standards. The study further emphasises that, mining corporations have been under pressure to increase their economic value contribution to local communities while simultaneously enhancing their environmental and social impact management. While Famiyeh et al. (2021) in their study of sustainability driving force in the mining industry explained that adopting a sustainable solution in the mining industry helps ensure that the mining method and equipment used are accompanied by sustainable processes in order to protect and maintain the integrity of the mining environment and its surrounding communities. According to the literature review, mining corporations have embraced cleaner technologies and have become more environmentally sensitive (Visser & Tolhurst, 2017; Hodge, 2014; Moran et al., 2014; Vintro

et al., 2012). The Mining companies focus on actively identifying, assessing, and managing a variety of ESG aspects for decades, including health and safety, water, waste and wastewater, atmospheric emissions, community relations, labour, and supply chain practices, as well as corporate governance, diversity, and inclusions (UNEP, 2021).

Environmental considerations include things like pollution, waste management, water availability, and energy use. Operational choices, carbon emissions, climate change consequences, pollution, waste disposal, renewable energy, and resource depletion all result in environmental hazards (Eccles & Viviers, 2011). Environmental performance is related to the number of resources used to supply goods and services (IFAC, 2012). “Environmental problems constitute a substantial risk for investors, since environmental externalities may result in major economic losses, while addressing environmental harm which including air and water pollution can produce huge fiscal expenses. Such potential liabilities are limited by adequate investments in preventing environmental issues (Singhania & Saini, 2022).

Brady (2021) highlights that Climate change, greenhouse gas emissions, and carbon reduction receive much attention since the ESG implementation in the mining industry. The study further emphasises, many mining companies are making provision to archive greenhouse gas emission reduction targets for both medium to short-term and long-term. The emphasis has recently shifted from reporting greenhouse gas emissions and set targets to defining and implementing viable and accelerated paths to Net Zero that are consistent with global climate scenarios and foreseeable trends. Reduced energy consumption, conversion to renewable energy sources, electrification of mining equipment, offsetting, and increased integration of circular economy principles are all on the agenda. At the same time, the industry is critical to the energy transition (Barman, 2018). According to a recent World Bank Group⁸ report, the mining sectors deploys over 3 billion tons of minerals and metals to invest into wind, solar, and geothermal power, as well as energy storage with the aim of achieving a below 2°C future.

Social considerations include labour and human rights, employee engagement, supply chain management, and human capital. Corporate activities and policies in the areas of human resources, supply chain, political donations, discrimination, diversity, human rights, and community relations all carry social hazards (Eccles & Viviers, 2011; DB Climate Change Advisors, 2012). The influence an organisation has on people and social concerns, including both its own workers and the larger society, is referred to as social performance (IFAC, 2012). Another possible investment risk is a poor social environment characterised by labour unrest, excessive inequality, or other social conflicts. An unstable social environment has the potential

to paralyse governance, cause violent unrest, and impede vital economic activities like commerce or manufacturing. On the other side, strong social cohesiveness promotes peaceful dispute resolution and makes it easier to execute required changes, which helps to promote sustained economic growth (Singhania & Saini, 2022).

Corporate governance describes the control that a board of directors and investors exercise over a company. Issues with corporate governance procedures, cumulative voting, CEO remuneration, shareholder rights, takeover defense, staggered boards, and independent directors may all result in good governance (Hodge, 2014). Singhania and Saini (2022) asserted that the governance component covers, among other things, a nation's institutional structure, level of regulation, rule of law, effectiveness of the government, independence of the central bank, and political stability. Corruption, internal strife, and civil rights are other indicators of a nation's government style.

Brandy (2021) emphasise that different international organisations have developed responsible mining standard and guidelines for ESG consideration and expectation in the mining industry. Each organisation has listed standard metrics that suit their respective business models. The study indicated that harmonisation of different standard is crucial as available standard and norms differ. Below is a list of different responsible mining frameworks.

Table 4 Mining Framework

Responsible mining framework	Definition
1. Imitative for responsible mining (IRMA)	An independent third-party verification and certification against a prerequisites for all mined minerals' 'that encompasses 'the complete spectrum of concerns associated with the consequences of industrial-scale mining'
2. Responsible Minerals Initiative (RMI)	RMI is developing "business strategies that support responsible mineral production and sourcing globally, including but not limited to conflict-affected and high-risk areas, providing businesses with tools and resources that improve regulatory compliance, align with international standards, and support industry and stakeholder expectations.
3. Towards Sustainable Mining (TSM)	The 'TSM standard' of the Mining Association of Canada is a worldwide recognised sustainability program that assists mining corporations in addressing important environmental and social risks. TSM was the first mining sustainability

	standard in the world to mandate site-level evaluations, and all corporations who are members of implementing bodies are required to comply.
International Council of mining and Metals (ICMM) principals and performance expectations	ICMM's Mining Principles and performance expectations are aligned with the objectives of other responsible sourcing initiatives and cover environmental, social and governance performance. They have an Assurance and Validation Procedure to reaffirm promises to openness and assure "the legitimacy of progress presented."
Value Reporting Initiative's Sustainability Assessment and standards boards (SASB) standards	ISASB Standards define the subset of environmental, social, and governance concerns that are most relevant to financial performance across 77 sectors. They are intended to assist enterprises in providing investors with financially-relevant sustainability information. Standards pertaining to mining include coal, iron and steel, metals and mining, and building materials.
OECD Due Diligence Guidance for Responsible Supply Chains and Mineral from conflict-affected and high risks Areas	This guideline includes extensive recommendations to assist corporations in upholding and avoiding contributing to conflict via their mineral procurement decisions and procedures. The Guidance is intended for use by any corporation with the potential to source minerals or metals from conflict-affected and high-risk regions. The OECD Guidance is applicable to all mineral supply chains and has a worldwide reach.
Enduring Value: Minerals Council of Australia's Framework for Sustainable development	"The framework is consistent with the industry's worldwide commitment to properly manage social, health, safety, environmental, and economic concerns in order to generate long-term shareholder value." This is accomplished by supporting industry participants to enhance their overall reporting and performance in terms of sustainable values. One of the primary responsibilities of "Enduring Value" is to support the industry in developing and executing programs that conform to community and social expectations about long-term sustainable and environmental development.

Source: Brady (2020)

2.9 Systems of ESG implementation

The following are the systems adopted to implement ESG according to literature reviewed:

2.9.1 Environmental and social management

According to Ameer and Othman (2011), the efficient of sustainability performance requires a comprehensive framework that ties environmental and social management with the operation, strategies and administration of the corporation. At the same time, incorporate information that relates to the environment and social realm with the fiscal information of the corporation and its disclosure on sustainability. The corporation should have an environment and social management plan and system to assess the environmental and social risks and opportunity arising from their operational activities (Ameer & Othman, 2011).

According to Rahman (2003), there is no sustainability can be attained whilst foregoing a reduction in levels of poverty, creation of jobs and economic growth. It follows, therefore that corporations conduct Environmental Impact Assessment to establish how the development impact the environment and mitigation measure to alleviate the impact and poverty alleviation. Environmental Impact Assessment merely ascertains the magnitude at which sustainability is attained when bona fide appraisals and satisfactory funding of extenuation strategies, corporate social responsibility (CSR) fund and EMPs are incorporated in the environmental consent procedure and taken into consideration before environmental permits and certificates are allotted. The sustainability criteria should entail this due process and should be integrated as a routine prerequisite to redress basic concerns pertaining to the sustainable utilisation of resources, poverty and disparities by firms.

Magagula (2014) carried out enquiry to figure out the effect of Environmental and Social Management System (ESMS). The conclusion showed that the ESMS did not yield desired results. One of the contributing factors as to the reason why the ESMS failed was the absence of an environmentally qualified person with the know-how to competently implement ESMS. In addition, there was no fiscal backup allocated to bankroll the environmental management initiative. The institution studied, moreover, failed to support its environmental management commitment to international party. This oversight negatively affects the sustainable use of resources. In addition, such an omission is in complete defilement of the environmental law that attempts to inspire the elevation of environmental protection and sustainable development. The following section discusses the social aspect of sustainability.

2.9.2 Environmental disclosure

There are two main reasons why organisations do reveal their environmental performance. They firstly divulge their environment performance when the law requires them to disclose. In this case an organisation is mandated to reveal its environmental performance and the firm is left with option but to comply with the prevailing legislation. Furthermore, organisations can opt to disclose environmental information out of their own volition (Maria et al, 2019).

There are two schools of thought that tries to explain why organisations may reveal information pertaining to their environmental performance. To begin with, the Voluntary Disclosure Theory (VDT) provides that organisations disclose information relating to their environmental performance to avoid irregularities in reporting between an organisation's management, financiers and other patrons (Pattern & Guidry, 2012). In addition, the VDT theory suggest that organisations in general, are likely keen to reveal optimistic information and suppress information which they deem to potentially have a negative bearing on the firm (Bewley & Li, 2000). Taking into perspective this school of thought's provisions, it follows therefore that organisations that seem to be thriving environmentally are the ones that tend to furnish the most information, purportedly in an endeavor to boost their value in the market (Silva-Gao, 2012; Hummel & Schlick, 2016). Another theory that offers an alternative perspective as to why firms disclose their environmental information is the Legitimacy Theory. Unlike the VDT theory, the Legitimacy Theory suggests that organisations that reveal the most information are in essence the ones with poor environmental ratings but make use of their information disclosure to change how various stakeholders perceive the organisation's environmental performance (Hummel & Schlick, 2016). The theory suggests that this usually occur when there is social as well as political forces questioning the legitimacy of an organisation. An organisation, thus, may opt to reveal environmental information to positively alter how various stakeholders view the organisation. (Clarkson et al., 2008).

Moneva and Cuellar (2009) and Qiu et al. (2016) assert that both the VDT and the Legitimacy theory agree that organisations to revel their environmental performance information with the aim of improving the public image of the organisation so to appeal to potential investors. These same authors stated that revealing a firm's environmental information helps to improve the public standing of the firm as well as its value. The link between actual and underlying environmental disclosure is what underpins this viewpoint. On the one hand, according to the VDT theory, most detailed information disclosure on the environment shows a respectable underlying environmental performance (Patten & Guidry 2012). On the other hand, Legitimacy

Theory states that much and detailed information disclosure may in essence echo a negative underlying environmental disclosure (e.g. Hummel & Slick, 2016). There are three comprehensive classifications of studies on environmental performance disclosure (Clarkson et al., 2008): firstly, there are studies that survey the valuation significance of environmental performance information, secondly studies that explores managerial policymaking in relation to the disclosure of potential environmental hazards and accountabilities and, lastly, studies that attempt to discover the relationship between environmental performance disclosure and financial performance.

2.9.3 Environmental Performance Indicators (EPIS)

Most information available regarding firms' environmental disclosure relates to revelations pertaining to the precise effect of an organisation on its surroundings (Xie et al., 2019). The study further emphasised that point of departure between the more stringent disclosure aspects is the fact that these measures denote the actual effects of an organisation on various environmental issues, for instance toxic gas discharges, energy utilisation, water consumption or the effect on biodiversity. The EPI disclosure aspect is perceived to be a more realistic measure of a firm's actual environmental performance when likened to the other stringent performance disclosure perspective. Even though scholarly literature is awash with general environmental performance, there is limited literature relating to specific types of environmental effect on the financial performance of firms. An isolated study that attempted to describe such an explicit correlation was carried out by Fan et al. (2017), who investigated the correlation between firms' energy usage intensity and the firms' financial performance in the electrical, steel, and chemical and aviation industries. The study results showed a major adverse correlation to these financial performance pointers: Return on Equity (ROE), Return on Assets (ROA), Return on Investment (ROI), Return on Invested Capital (ROIC), Return on Sales (ROS), and Tobin's Q.

Matsumura et al. (2014) found a negative correlation between the volume of carbon releases and the value of a firm, understood as the market value of common equity, calculated as the number of due stocks multiplied by the price per share of a firm's common stock at the end of each financial period. Konar and Cohen (2001), in a study consisting mainly of manufacturing firms, about the correlation between environmental performance and market value of the firm which they defined as the change in the market value of tangible and intangible assets, found a positive correlation between environmental performance, expressed as the quantity of carbon

emissions, and the market value of intangible assets, which were categorised as “factors of production or specialised resources that allow the firm to earn profits over and above the return on its tangible assets” (p. 282), such as patents, trademarks and the reputation of the firm. Where unfavorable performance was reported, reports on toxic emissions were the major source of value loss due to environmental litigation expenses. The literature reviewed above shows that there is a positive correlation between a firm’s environmental performance and its financial performance.

2.9.4 Corporate Governance Performance

Rahman and Ibrahim (2020) conducted a study relating to the firm value relevance of environmental control structures on 520 Malaysian listed companies. The results revealed that organisations possessing sound environmental governance structures are less likely to confront financial problems and can easily access or secure funding. The study findings also revealed that organisations with a competent auditing committee in place or having independent auditors in their board of directors for governance structures and management systems tend to alleviate information irregularities and this helps to lessen financial difficulties in general. Latridis (2013), moreover, submitted that the quality of information on environmental disclosure is usually satisfactory amongst organisations that carry out internal audits or that have audits conducted by independent agents. The study reiterated that such quality reporting is highly valued by financiers and helps to increase a firm’s stock’s value. Environmental governance structures can be established through the implementation of Environmental Management Systems (EMS) and getting the system certified according to the ISO 14001 procedures for environmental management and incorporate environmental protection guidelines, programs and operations (Morrow & Rondinelli, 2002).

According to, adopting an EMS result in the organisation saving cost accruing from improved throughput and a reduction in the cost of energy, resources as well as penalties charged on environmental incidences. In addition, organisations with EMS in place tend to have yield a competitive edge in the financial market since investors’ confidence is likely to be high. Morrow and Rondinelli (2002) assertions were, however, disputed by (Bansal & Bogner, 2002). The later argued that the initial cost of investing into an EMS is usually high such that recovering such costs is very time consuming. Moreover, the enduring expenses of upholding credentials, especially for getting ISO 14001 certification are very high (Bansal & Bogner,

2002). Adopting an EMS will inevitably bare environmental perils to the outside world since this may draw attention to aspects where environmental initiatives were not yet implemented or considered (Bansal & Bogner, 2002). Bansal and Bogner (2002) concluded by saying that the benefits a firm accrues from implementing an EMS are not a guarantee to every organisation but are firm specific. Lastly, Bansal and Bogner (2002) underlined that it is of great importance that an organisation gets EMS certification since such accreditation improves an organisation's credibility.

A study by Cañón-de-Francia and Garcés-Ayerbe (2009), however, revealed an adverse correlation between environmental accreditation and market value. These authors found a negative correlation between the disclosure of ISO 14001 accreditation and market value. These findings point out that investors tend to view the potential financial returns accruing from implementing ISO 14001 standards as being lower than the costs incurred. Cañón-de-Francia and Garcés-Ayerbe (2009) also asserted that it is not commonplace that organisations merely adopt ISO14001 standards as a knee-jerk reaction to social and political external forces and not as self-conscious obligation and initiative by firms due to the need to achieve environmental performance and organisational efficiency. A study by Nishitani (2011), however, found a positive correlation between implementing an EMS and a firm's market value. The excessive organisational impact on the environment can be evidence of resource wastage in the production process (Nishitani, 2011). Implementing sound EMS, therefore, according to Nishitani (2011), results in improvements in organisational productivity as well as demand for the organisation's products whereby the more environmentally alert clients will commence purchasing more of the organisation's goods and services. Nishitani (2011), nevertheless agreed with Bansal and Bogner (2002) that there is indeed a significant time difference between a firm commencing implementing an EMS and the firm beginning to accrue positive financial gains.

2.9.5 Environmental spending

A study conducted by Kim and Kim (2018) for American firms in the manufacturing sector established that there exists a negative correlation between the amount of money allocated by a firm towards environmental sustainability and the firms' profitability. The study revealed that money allocated to environmental conservation is in essence a cost of production and thus tend to squeeze a firm's profit margin and ultimately the firm's financial performance. This study, however, also revealed that general organisational research and development endeavors helps to ease the negative impact of environmental expenditure on the firm's financial performance.

Nonetheless, Johnston (2005) established a positive correlation between firms' voluntary Environmental Capital Expenditure (ECE) and the firms' future returns expressed as the stock price, three months after the financial year (Johnston, 2005).

Clarkson (2012), in a separate study, measured the impact of ECEs and found out that there is a positive correlation between ECEs and the market value of common equity for firms that have minimal pollution levels. Whereas the disclosure of ECEs for firms with significant pollution levels was found not to have major impact on their market value. Moreover, Sueyoshi and Goto (2009) found out that yearly firms' expenditure on environmental conservation decreases the firms' financial performance, measured as the firm's Return on Annuity (ROA). Therefore, this shows that the results on environmental expenditure and financial performance are indifferent.

2.10 Barrier to ESG consideration

Alberto (2010) noted that the increasing adoption of the Global Reporting Initiative (GRI) framework by mining companies has been motivated in part by its potential advantages. Due to its adaptability and worldwide reach, the framework enables benchmarking, comparison, and communication of social and environmental initiatives inside the mining industry and between industries. The framework facilitates business reputation management and the pursuit of competitive advantage. It is also significant to mining stakeholders because it offers a forum for interaction with corporations that may support a range of reasons, including political position, ethical investment and academic study. These advantages are almost never contested. According to Fonseca (2010), how to enhance the framework so that it can promote what it is intended to promote, transparency of sustainability performance, remains highly disputed. The key obstacle for adopting and implementing EGS are discussed below with reference to different researchers.

Firstly, Watkins (2008) suggests that the GRI institution have acknowledge the shortcomings of its framework. The framework was reviewed twice since its inception and compared to comparable voluntary standards like the ISO 26000. However, it is questionable to what degree the GRI G3 constitutes an improvement over previous GRI versions. There are about One hundred and sixty (160) current issues in the framework that needs more significant structural adjustment to the way GRI currently conceptualises sustainability. Most of the past study, however, has not gone beyond flagging concerns to comprehend the difficulties associated with implementing the purportedly required improvements. With a few exceptions of Brown et al.,

2009, Brown et al, 2009; Dingwerth, 2007, the hurdles to improving the GRI framework are mostly unexplored.

With a few exceptions of Brown et al. (2009); Dingwerth (2007), the hurdles to improving the GRI framework are mostly unexplored. On the other hand, Paredes-Gazquez (2014), argued that ESG consideration is hindered by the belief that ESG practices do not bring value to investment decision-making, particularly in developing markets. The PWC Report (2021) confirmed the latter, stating that the appraisal of ESG value addition was significantly behind the emerging market. Despite the demonstrations of experts and researchers that ESG considerations impact the financial success of organisations, these views continue to prevail in the sector, hindering its adoption. In addition, Duuren et al. (2016) provides evidence for the assertion that there is a misconception that ethical investing decreases the investment grade universe and adversely impacts investment performance.

Bilharm (2021) also asserted on the enormous number of voluntary plans and standards which fragmenting the sectors and requires the mining industry obligation to comply with. However, those standard requirements are not coordinated or standardised, causing mining corporations a considerable lot of effort to comply. The call necessitates the consideration of costs, risks, and rewards associated with complying while deciding which volunteer programs to engage in. Some regulations may be seen as being excessively burdensome to follow, such as the Initiative for Responsible Mining Assurance (RMA) as a new regulation that deemed unlikely to be widely adopted due to its perceived compliance burden. Brady (2021) indicated that different international organisations have developed responsible mining standard and guidelines for ESG consideration and expectations in the mining industry. Also, each organisation has listed standard metrics that suit their respective business models. The study indicated that harmonisation of different standard is crucial as available standard and norms differ. Nonetheless, there is need for harmonisation of schemes, criteria, and data reporting standards (2020).

Table 5 Summary of System Barriers Identified in the Mining Industry

IDENTIFIED BARRIER	SUMMARY
Reporting overloaded	Harmonisation of different standard is requiring as available standard and norms differ.
Conflicting actor drivers	“There was a high level of consensus about what the roles of various actors should be, but potential misalignment between these roles was seen as a key stumbling block to progress. Improving mutual understanding of different actors' and communities' perspectives may

	help to identify common ground as well as possible areas of divergence and tension.”
Different standards for different place	“Market mechanisms and current governance and policy frameworks cannot be relied upon to provide a worldwide "level playing field" and that it is not acceptable for common high standards to not be attained or for socio-economic or political environment to be a factor of this.
Tensions between different impacts of mining	“High-tech and increasingly automated mines have potential to address environmental impacts and improve health and safety among mine workers and local communities. However, they are likely to provide far fewer employment opportunities. It was suggested that alternative models for sharing economic benefits with local communities may need to be developed.”
Not listening to on-the-ground needs	The design phase of industrial mining projects is crucial. Indigenous peoples should be consulted from the beginning in determining which environmental and social values take precedence. It is crucial to place local communities at the centre of post-closure planning, which is frequently disregarded.
Supply chain complexity	There was little clear consideration of supply chain complexity and capacity. It generates or exacerbates many of the other issues and obstacles to responsible sourcing and supply and inhibits the mutual understanding of the perspectives of the many supply chain participants.

Source: Bilham (2021)

2.14 Namibian mining sector

The Namibian mining industry is one of the economic pillars which contributes significantly to the country’s GDP over the years. According to the report of the National Planning Commission of Namibia for 2021, the mining sector contributes 11.1% of the country's gross domestic product. While the sectors contribute 3% to the Namibian labour force with 15 246 direct employment recorded in the Chamber of Mines Report (Namibia Chamber of Mines, 2021). The sector is also known for its major Corporate Social Responsibility which have seen development of many towns in their locality. they led town development as part of national goals (NPC Report, 2021). Even though, the mining industry are known for its positive contribution, the industry is also linked to the detrimental repercussions of mining, which are tied to issues with the economy, the environment, and society. The industry is reported to have challenges with regards to mining activity which impact the environment, the element of local value addition and tax contribution of the industry.

There are challenges that are hindering the success of the Namibian Mining sector. The mining operations in Namibia is faced with a shortage of water, high electricity costs, dwindling resources, an unskilled labour force, low commodity prices outside of Namibia, changing exchange rates, and high transportation and fuel costs (Namibia Chamber of Mines Report, 2020) (Namibia Chamber of Mines, 2020). The mining industry is on a path to redefine its economic model to be greener, sustainable, and community focused. The report indicated that, because of the increased emphasis on climate change and community well-being, mining corporations are striving to redouble their efforts to decrease their carbon footprint and continues to resolve social concerns.

The Namibian mining industry is mainly regulated by the Environmental Management Act (7 of 2007) and the Minerals (Prospecting and Mining) Act (33 of 1992). The two laws that guide the operation of mines to avoid potential impact on the environment. Furthermore, the Ministry of Environment and the Ministry of Mines and Energy in conjunction with the Namibia Chamber of Mines developed a guideline titled “Namibia: Improving the Environmental and Social aspect of Mining Sector” to steer and encourage sustainable mining operation and Corporate Social Responsibility (CSR).

In addition, the ESG practice was integrated in the Best Practice Guide “Environmental Principles for Mining in Namibia” which was developed by the Chamber of Mines, in partnership with the Namibia Chamber of Environment, the Ministry of Environment, Forestry & Tourism (MEFT), and the Ministry of Mines and Energy (MME). The guide offers valuable insights for field experts and workers on how to effectively manage the environmental, social, and economic aspects of mining throughout the mining lifecycle to have the most sustainable impact on the development of the country and the towns and communities nearby.

Littlewood (2015) point out that corporate social development has revolve over the years in the Namibian mining industry. The mining companies have prioritised community development whereby they have developed an in-house project development while other mining companies established the devoted semi-autonomous foundation to take full responsibility of social development. This include having strategic objective in line with government objective to contribute to school and town development. This is also supported by Davidson in 2020 who highlight that mining companies, for instance, Rio Tinto have done massively through Corporate Social Responsibility programmes by contributing the particularly Sustainable Development Goal (SDG) 4 which focus on quality to education respectively. Rio Tinto had

an initiative in close partnership with government to strengthen teacher's capacity and learner support mainly in Science and Mathematics.

Over the years, several mining firms have embraced sustainability reporting and started issuing stakeholders sustainability reports in addition to or instead of their annual financial results. Ideally, this shows that the mines have moved away from being just profit-driven and are now playing a responsible role in the communities where they are located.

2.15 Chapter summary

Literature review have demonstrated the transition of sustainability and evolution of ESG, identified the ESG measure, drives and barriers thereof. however, many of the studies reviewed was mainly from Europe and few African perspectives. Thus, indicates that more research and the understanding of ESG consideration is required in other countries specially in Africa. The researcher also noted that there are less studies conducted with regards to the ESG consideration in the Namibia Namibian. However, this research case was built based on the international perspective.

There is also not much of research done on ESG capacity building in the mining sector, that would address the employees to understand the knowledge of the relevant of regulatory frameworks of ESG. literature is also silence on mobilisations of the mining communities, with regards to ESG.

Nonetheless, the objective of this research intends to fill the gap and create awareness in understanding ESG practice and consideration in our emerging market with the case of the Namibian mining industry.

CHAPTER THREE: RELEVANT THEORIES AND POLICY AND REGULATORY FRAMEWORK

3.1 Introduction

This chapter presents the theories associated with ESG disclosure. The chapter further outlined the policies pertaining to environmental and social issues and sustainable development in Namibia.

The theories drive sustainability related construct which are known as significant in the emergence of sustainable development and sustainability (Alhadidi, 2015). The theories assist companies to conceptualised and solve a complex problem in ESG. The theories and literature reviewed warrant the presentation of regulatory frameworks for ESG Measures in the mining industry with a specific focus on environmental, social and governance issue particularly in the Namibian mining sector. The framework presented help in formulating research questions that the study aims to answer. There are standard ESG measure and various methods are used which find fit in various industry.

3.2 Relevant theories

This section presents the theoretical framework that are relevant to ESG practices and disclosure. According to Jenkins (2004), numerous theories inspire corporations to adopt and share ESG practices. However, for the purposes of this research, the emphasis is on the triple bottom line theory, the legitimacy theory, and the stakeholder's theory, which are crucial in promoting ESG practice and sustainability disclosure.

3.2.1 Triple Bottom Line Theory

Triple bottom line (TBL) is a concept coined by John Elkington in 1997, which integrates the three pillars of ESG investing. The theory states that a stable, well-functioning, and well-governed environmental, social, and economic systems are necessary for the generation of long-term sustainable returns. Elkington initially defined TBL with the three terms known as profit, people and planet which are translated into the three lines economic, social and environmental. Goel (2010) emphasise that the concept delivers a framework to measure business performance and determine the success of the business applying the environmental, social and economic lines. While Roger and Hudson (2011) define it as a realistic framework for sustainability. The TBL idea incorporates a constant and balanced focus on environmental, social, and economic business goals.

3.1.1.1 Economic line

The TBL framework's "economic line" describes the impact derived from the day-to-day operation of a company to the economic systems (Elkington, 1997). It relates to the economy's potential to endure and develop going forward in order to safeguard the coming generations as one of the sustainability subsystems (Spangenberg, 2005). Thus, economic line links the organisation's development to the economy's growth and measures how effectively it supports it. On the other hand, it emphasises the economic value that the organisation adds to the environment in a manner that benefits it and encourages the capacity of that environment to sustain coming generations.

3.1.1.2 Social line

TBL's social line refers to engaging in valuable and fair corporate practices for labour, human capital, and the community (Elkington, 1997). The concept behind the practices known for adding value to society livelihood. Fair salaries and health care coverage are two examples of these practice. Besides the moral component of being beneficial to the community, ignoring social responsibility may have an impact on the company's performance and sustainability. Dhiman (2008) emphasised that several instances in the industry proven that disregarding social responsibility has economic consequences. He further elaborated that, in the Bay Area of California, during the 2002 municipal elections, the people voted against the building of a Home Depot owing to their opinion of its bad residential effect as a neighbour. The social performance of the company focuses on the relationship the organisation has with the community and handling topics such as employee relations, fair compensation and community engagement (Goel, 2010).

3.1.1.3 Environmental line

Goel (2010) explained that TBL's environmental line refers to activities that do not jeopardise the environment's resources for future generations. It is concerned with the effective use of energy resources, the reduction of greenhouse gas emissions, and the reduction of the ecological footprint, among other things. The study further argues that environmental activities, like the social side of TBL, have an influence on the organisation's commercial sustainability. This was confirmed by Kearney (2009) when conducted research on 99 sustainability-focused firms across 18 sectors to investigate the influence of environmental actions on organisational performance. The sectors studied ranged from technology, automotive, and chemicals to food, media, retail, and tourism. The study technique aims to determine if firms with sustainable practices are more likely to weather the economic slump during

the six-month analysis period. The study's sample includes firms focusing on sustainability that were members of the Dow Jones Index. The analysis was carried out in two stages: three months and six months. During the present economic slump, firms with strategies aimed at conserving the environment and promoting the social well-being of stakeholders while generating value to shareholders beat their industry rivals financially, according to the report. Reduced operating expenses like energy and water use, and improved profits from the initiative of new green products have resulted in a financial advantage (Kearney, 2009).

3.2.2 Legitimacy theory

The legitimacy theory is predicated on the premise that a social contract exists between society and corporations. Since the company is permitted to function in society, it is seen as having the ultimate obligation to answer to society for its operations and actions (Emillien, 2022). Since society has granted the firm permission to develop, use its natural resources, and employ locals. Society should be comfortable with the operation, and if there is any question that the corporation is violating its contract with society, the organisation's existence and operation will be jeopardised (Heenetigala et al., 2015). According to the theories, Environmental, social, and governance (ESG) disclosure is done to acquire societal legitimacy for environmental and social consequences generated by a company's activities. The corporations are under pressure to mitigate reputation risk, and attract interest of stakeholders, which pushes them to reveal as a management strategy that sustains and improves corporate reputation (Xie et al., 2019). This theory basically upholds the relationship between the society and corporation compliance. This is in support with Lindblom (1994) who contended that a company has legitimacy when its value system is compatible with the value system of the society in which it operates.

The Legitimacy theory argues that the corporation should regard the interests of the general public and not necessarily the rights of the investors. Since failing to comply with society's expectations would result in the corporation's activities and demand for its resources and goods being restricted, the corporation will be subject to penalties (Deegan, 2014).

3.2.3 Stakeholder Theory

Unlike the legitimacy theory, the stakeholder theories state that corporations need to maintain the relationship with the stakeholders in order to survive. The theory considers the importance of the range of stakeholders from the shareholders, supplier, customers, government and the community. In addition, the corporations' ESG disclosure covers issues of or that impact economic concerns

(Heenetigala et al., 2015). The corporation targets the group of individuals who are affected by their operation or have effect on the corporations' achieving its objectives. Moreover, the corporation have the responsibility to accountable to the supplier, customs and community and should be part of their social responsibility model (Thorne et al., 2011). The maximising of shareholder wealth is giving way to the maximum of stakeholder wealth, with firm value management systems focused not just on economic maximising profit, but also on ESG promotion. Therefore, only if a stakeholder engagement procedure is established in the company's management system can ESG realisation be achieved (Martirosyan &Vashakmadze, 2013).

Evans and Peiris (2010) showed a substantial positive association between wider ESG characteristics and business values, demonstrating that highly rated firms are associated with higher earnings multiples, indicating that ESG elements effect corporate financial performance and are, therefore, important for investment decision-makers to consider. This demonstrates that for firms to be competitive, they must not just be accountable to shareholders, but also manage a range of stakeholders that have a stake in the firm's financial and social performance (Donaldson & Preston, 1995).

Heenetigala et al. (2015) elaborate that the greater the stakeholder's importance to the company, the more effort is invested maintaining the relationships. Information is a significant tool that an organisation may use to manage stakeholders for them to win their support and acceptance, or to deflect resistance and disapproval. Consequently, managers have reason to communication information on different initiatives and programs to certain stakeholders with a vested interest in the organisation in order to demonstrate if they are meeting expectations of stakeholders (Deegan, 2014).

3.3 Policy and regulatory framework

This section describes the national and international framework adopted in Namibia to regulate the mining industry. The laws and international framework have a role in shaping and directing the mining industry to ensure sustainable mining and contribute to the achievement of sustainable development objectives.

3.3.1 The Constitution of the Republic of Namibia

Even though Namibia is still to implement all its proposed and desired statutes, the national laws as well as the constitution of the country can be described as liberal. Chapter 3 of Namibia's Constitution every person in Namibia is assured of equality as well as freedom from discrimination, rights to culture, and tradition, amongst many other fundamental human rights and freedoms (The Constitution of Namibia, Article 10 -20, 1990).

Other relevant articles to indigenous peoples and communities, albeit under specific circumstances include: Article 15 – Children's Rights; Article 17 - Political Activity; Article 23 - Apartheid and Affirmative Action. Additionally, Article 66 upholds the validity of customary and common law where they do not conflict with statutory law and the Constitution. It follows therefore that the Constitution of Namibia (GoN, 1990) identifies prevailing customary law as bearing equal prominence as laws passed by the legislature. However, this assertion only holds true if it does not clash with the constitution or the statutory laws. Article 95 and 91 of the Constitution places an emphasis on the promotion of the people's well-being of the people, as well as the welfare of the people of the environment. Article 100 of Namibia's Constitution provides that "Land, water and natural resources below the surface of the land...shall belong to the State if they are not otherwise lawfully owned". It follows therefore, that, the state essentially views communal land as state land. Provisions in article 124 and schedule 5 of the Constitution of Namibia, as well as section 17 of the Communal Land Reform Act, however, are in support of alternative legal viewpoints that communal land belongs to traditional communities in the country (GoN, 1990).

Namibia accepts that ratified international laws can be applied directly within Namibia without any alterations or the need for parallel national legislation. Article 144 of the Constitution states that "Unless otherwise provided by this Constitution or Act of Parliament, the general rules of public international law and international agreements binding upon Namibia under this Constitution shall form part of the law of Namibia". Namibia's Ministry of Justice recognises any international law to which Namibia is a signatory as binding, with any additional domestic laws formulated only needed for non-self-execution accords (GoN, 1990).

3.3.2 National Planning Commission (NPC)

Namibia's Ministry of Economic Planning and National Planning Commission (NPC) is mandated with identifying national priorities and determining the route national development must follow. Namibia's NPC formulates National Development Plans, periodic overarching national planning frameworks currently in phase 5 (NDP 5), which interlink with other national development policies and objectives, including the Harambee Prosperity Plan (adopted under the current President in 2016), and Vision 2030 (adopted in 2004 under the previous President). These documents serve as a guide for targets and policies, and do not necessarily make detailed recommendations, but have far-reaching social, economic and environmental targets with National Development Plans, including an array of explicit actions.

3.3.3 Ministry of Environment, Forestry and Tourism (MEFT)

In March 2020, the Forestry Division of the Ministry of Agriculture, Water and Forestry (MAWF) was integrated into the Ministry of Environment and Tourism (MET) and became the Ministry of Environment, Forestry and Tourism (MEFT).

The mandate of MEFT is to protect environmental resources in Namibia and it is tasked with encouraging biodiversity preservation in the Namibian, through the sustainable usage of natural resources, and the development of tourism for greater social and economic benefit of Namibians.

Rights relating to the sustainable controlling and operation of game within conservancies in Namibia are clearly spelt out in the Nature Conservation Amendment Act (5 of 1996) (GoN, 1996). The Namibian Community Conservancy programme, which has been in place for a greater period, provides for a significant transference of rights and management of land and natural resources to indigenous communities. Management and utilisation plans are developed by conservancies regarding wildlife and a variety of natural resources within established zones.

MET, as the government ministry with the mandate to manage national parks, is a key establishment in instances where the indigenous people and local communities' border on or live inside protected areas.

MET implements a series of policies. Amongst these policies are Namibia's Second National Biodiversity Strategy and Action Plan 2013-2022 (NBSAP). This plan spells out specifics on national policies and drivers for the preservation and sustainable utilisation of biological diversity. Another policy, developed in 2018, is the Revised National Policy on Human Wildlife Conflict Management (GoN, 2016). This instrument, which also includes an action plan, covers the protection of wildlife as well as the prevention of, or compensation for, human deaths, injuries, livestock losses and crop damages by wildlife. A third policy is the National Policy on Protected Areas' Neighbors and Residents that was established in 2013¹. This policy targets to progress conservation management and benefits from conservation through the participation of parks' residents and neighbors.

The National Policy on Community Based Natural Resource Management (2013) relates to communal land outside of protected areas. The policy seeks to encourage the sustainable utilisation of natural resources and the advancement of integrated natural resource planning and management. The Tourism and Wildlife Concessions on State Land policy of 2007 focuses on the granting of concessions, benefits to communities, evading adverse environmental effects or management conflicts, and ensuring transparent processes in the granting and operations of concessions.

Requirements for Environmental Impact Assessments (EIAs) are found in the Environmental Management Act (7 of 2007). This Act requires an Environmental Commissioner within MEFT to allot an environmental clearance certificate for activities which are deemed to have an environmental impact and recommends a public meeting process. This is unlikely to be a direct requirement of any Project activity, though it should be noted that some tourism developments are likely to require EIAs, and borehole-drilling may require clearance certificates.⁸ An ESIA will be carried out for project activities that have a physical footprint.

The Forest Act (12 of 2001) (previous to March 2020 under the then Ministry of Agriculture, Water and Forestry) confers rights upon communities to manage declared community forests and a range of resources, including timber and grazing. The establishment of community forests, within conservancies or in other communal areas, can strengthen land rights by providing increased management of resource use and associated penalties, as well as supporting traditional livelihoods.

Community Forests are likely only of relevance in the North East. Community Forests have been successfully established in many communal areas, though the sustainability of timber harvesting and quality of monitoring of permits has been problematic. Currently, due to excessive hardwood exports

¹ <http://the-eis.com/elibrary/sites/default/files/downloads/literature/National%20policy%20on%20protected%20areas%20neighbors%20and%20resident%20communities.pdf>

from Namibia and lack of harvesting controls, there is a temporary ban on all commercial timber harvesting in Namibia.

3.3.4 Ministry of Mines and Energy (MME)

MME, a government ministry, has the responsibility of maintaining the nation's diverse geological mineral and energy resources and ensuring their contribution to the social and economic development of the nation.

MME regulate the mining industry per the amended Mineral (Prospecting and Mining) Act (8 of 2008). The Act sought to oversee all mining operations in Namibia. Mineral rights are held by the state, and anyone who intends to explore or mine minerals in the nation must apply for an exploration certificate at the Ministry of Mines and Energy. After a mine closes, trust funds for environmental damage compensation and rehabilitation must meet certain financial assurance requirements. This is a part of the new mineral legislation that is being drafted in accordance with Cabinet approval and Parliamentary ratification of the 2003 Minerals Policy. Penalties for non-compliance are part of the regulations on requirements that have not yet been written.

The government has complete control over all rights pertaining to petroleum exploration, production, and disposal. According to Article 12 of the Petroleum Act of 1991, the Minister may demand that the applicant complete an environmental impact study before submitting a licensing application. Additionally, it "provides for the issuance of permits for petroleum exploration, production, and reconnaissance, as well as, in Article 71, for the regulation of environmental contamination produced by such activities." The Act outlines the process for creating a petroleum agreement between the State, acting through the Ministry of Mines and Energy, and the license applicant. This agreement covers license holders' difficulties as well as the Act's legally severe environmental criteria for environmental protection.

3.3.5 International agreements and treaties

Namibia is a signatory to an array of international accords, resolutions and other multilateral treaties pertinent to the sustainability of the environment, the indigenous peoples as well as local communities. As discussed earlier in this chapter, Namibia's approach to international law is monistic in nature. There are several international environment and social treaties pertinent to Namibia, amongst which are the Convention on Biological Diversity (CBD) including the Nagoya Protocol; the Convention on the International Trade in Endangered Species of Wild Flora and Fauna (CITES); the UN Framework

Convention on Climate Change (UNFCCC); the UN Convention to Combat Desertification (UNCCD); the Convention for the Protection of World Cultural and Natural Heritage; the International Convention on the Elimination of All Forms of Racial Discrimination (ICERD) ; the International Covenant on Economic, Social and Cultural Rights (ICESCR); the International Covenant on Civil and Political Rights (ICCPR); the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW); as well as , the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). In addition to the above, Namibia partakes in numerous international standards, reviews as well as process, and this encompasses the United Nations Sustainable Development Goals (SDGs), the African Charter on Human and Peoples' Rights (ACHPR), and Universal Periodic Review (UPR).

3.3.6 UNDP's Social and Environmental Standards

Namibia's ESMF policy is in congruence with the UNDP's Social and Environmental Standards (SES) Policy, who was affected 2015. UNDP's pledge to conventional social and environmental sustainability in its programs and projects to back sustainable development is underpinned by these (SES) standards, and the standards are an essential element of UNDP's quality assurance and risk management strategy.

UNDP (SES) paramount goals are to reinforce the social and environmental outcomes of programs and projects, avoid adverse impacts to people and the environment, reduce, mitigate, and manage negative impacts where prevention is impossible, support UNDP and its partners' capabilities for managing social and environmental hazards, and guarantee complete and active stakeholder engagement.

3.4 Chapter summary

As evidenced in the presentation above, these are several theories and frameworks that control the ESG-related company conduct. The primary policy frameworks of Namibia are derived from the country's Constitution, National Planning Commission, several ministries, and internal treaties. These instruments are primarily concerned with regulating the protection of natural resources, the environment, and human welfare. The national legislative system has included the principle of sustainable development in some kind. According to Allen (2003), sustainable development may be interpreted as development that strikes a balance between social, environmental, and economic issues.

In Namibia, the legal framework is a component of the theoretical framework that enforces environmental, social, and economic aspects. Although the mechanisms do not explicitly enforce ESG, they do enforce the incorporation of sustainability through sustainable development. Thus, if mining companies apply the principles in the framework an assist them to contribute to sustainable development goals. Consequently, they constitute a portion of the ESG base in Namibia. Since sustainability focuses on three factors, environmental and social management are incorporated into corporate governance strategy. The following chapter focuses on the study's research methods that employed to assess the ESG consideration.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1 Introduction

This chapter explores the philosophy, approach and the strategy that underlined the research study. An insight on how the sample was selected, data collected presented and analysed, as well as the time horizon and ethical considerations offered.

4.2 Research philosophy

The research adopted the positivistic research philosophy which make use of qualitative research method. The study used qualitative research method, in that qualitative data was used (from documentary sources) and qualitative data analysis was used. The Researcher conducted the research study starting from a general point (the theory) and move towards a specific point (the empirical) (Trochim, 2006). The research commenced with a literature related to the given topic, as presented in Chapter 3, and this subsequently led to establish the measurement tools for ESG aspects of the selected mining companies. The study utilized data used is from secondary sources and from documents. Secondary data about the viewpoints regarding sustainability and ESG, found in Sustainability Reports.

4.3 Research approach

This research study adopted the exploratory research. According to Zikmund et al. (2013) exploratory research seeks to examine a topic about which little is known or to identify prospective economic prospects. Due to a shift in social conditions, exploratory research may be done in response to a new development or an existing issue that has gained significance (Hall, 2008: 8). In the context of Namibia, there have been minimal information on the systematic review of the ESG related issues. As result, there is limited academic research explored which calls for exploratory research approach. Thus, this study explored the ESG integration in the context of mining companies in Namibia.

As in accordance with Sandler (1996), the research study adopted a mixed method to utilize qualitative and quantitative research approach through secondary data. The qualitative and quantitative was employed for complementary purpose. However, the research problem natures call for predominantly qualitative approach. Qualitative The study employed a systematic approach to conceptualize ESG framework. The study has analyzed three set of secondary data. First the researcher studied the literature by gathering secondary data from archival sources

using a deductive technique in order to establish the measures and evaluate ESG performance this includes academic journals, reports, relevant websites and books. Thereafter, retrieved the necessary financial data, the annual and sustainability reports from the dataset of Namibia Chamber of Mines, respective mines and government institutions such as Ministry of Environment, Forestry and Tourism, and ministry of Mines and Energy.

The study employed the qualitative research to support the quantitative research methodology. Instead of only quantifying the core data gathered and analysis, the research discussed the ESG. In relation to the research issue, Bryman (2004) emphasizes the value of creating social sense.

4.4 Research strategy

As stated above, existing secondary data was retrieved from databases and websites of the sampled mines, the Namibian Chamber of Mines and the Ministry of Mines and Energy. Mining companies' corporate sustainability reports were assessed. Sustainability reports provide an all-encompassing view of the economic and ESG components, as well as their proportional impact on the firm's performance. The researcher views this strategy as helpful in understanding and investigating worldwide norms and guidelines to comprehend and avoid in performance grading of the mines while implementing ESG. This is significant since, as was already mentioned, Namibia has not yet performed any research on the adoption of ESG. In order to produce good concrete data for answering research questions and achieving the research purpose, international experience was used to develop social meaning through document review.

4.5 Population and sample selection

The population comprised of all the large scale mining companies in the diversified nuclear fuel, metals and rare minerals which are registered with the Ministry of Mines and Energy. The population is the entire collection of individuals or things from which data is gathered and research is done (Zikmund et al. 2013). As a result, the population of the research study was a total of 20 large-scale mining companies in the nuclear fuel, metals, and rare metals industry since the number is not significant. However, only 18 mining companies that had their Sustainability Reports accessible were analyzed.

According to Robinson (2014), a "Sample" is a relatively tiny section of a given population, as opposed to the process of selecting a small number of things or people from the target

population. The whole population was considered for research excluding the mines that are under maintenance and care. For this reason, the non-probability random sampling was employed in the study. Non-probability sampling gives every member of the population an equal opportunity to participate in the study (McKinney, 2008). McKinney (2008) emphasizes once more that, non-probability sampling is a non-random selection of the group sampled whereby the entire quota participated in the study. The researcher further applied both the judgment and convenience non-sampling techniques to draw the sample size for data collection.

The researcher employed the convenience sampling to collect data for ESG that are readily available whereas judgmental sampling was considered for criteria specified by researcher. The criteria include:

- Mining companies categorized in the Nuclear fuel, metals and rare minerals which are registered with the Ministry of Mines and Energy;
- The Annual Report or Sustainability Reports and data should be available in the public domain (Websites).

4.6 Data collection

The researcher as stated above, is using secondary data. The secondary data was collected in stages. Firstly, the researcher reviewed the literature of academic articles and journals, reports and books related to ESG practices and sustainability reporting.

The researcher collected data from a population of eighteen mining companies. Then, non-probability sampling was employed, and only mining companies with information available in the public domain were reviewed, bringing the total number of mining companies analyzed to eleven. The seven mining businesses were excluded because two of them were not operational and were undergoing maintenance and care, and five of them had inaccessible websites. The study also found that the selected mining companies are all subsidiaries of foreign mining organizations with local shareholder partnerships.

The dataset checklists were designed and used to gather data for the sampled mines. The data used were obtained from sustainability reports and annual reports that were accessed without authorization, since they are neither sensitive nor restricted and pose no major ethical concerns. Since the material is derived from corporate sources, the researcher took notice of the fact that

it was gathered for corporate purposes and may be impacted by corporate viewpoint. To ensure balance and eliminate bias, the information was triangulated with in the regulator information source available on the public domain.

4.7 Data analysis

Data analysis, according to Sherman's definition from 2007, is the process by which interpretation, inferences, and conclusions are created and validated. Content analyses was used in an analysis of the data gathered. The research applies the thematic analysis to categories data that has been coded. In qualitative research, coding is described as "how you characterize what the data you are studying are about" (Gibbs, 2018). The global responsible initiative (GRI) indicators were utilized to gather data for this research study to determine the extent of ESG consideration in the mining industry. while literature reviews and records from the sampled mines functioned as secondary data.

Data for this study was coded and categorised into units in accordance with the Global Reporting Initiative themes. The researcher made use of content analyses procedures, such as bracketing and phenomenological reduction to group units according to the data segmented into relevant and meaningful units (Creswell & Clark, 2017). For consistency, the researcher carefully examines and continuously compares the data to extract themes and classifications to unify the data as mining companies' Sustainability Reports information are not presented the same. Relevant units were reviewed and listed to eliminate the redundancies from the units with relevant meaning, renewing the efforts of bracketing the phenomenon under investigation. The researcher categorised and reduced the themes by grouping similar themes and narrating the experiences of the participants.

The data was acquired through desktop reviews from the respective mining companies' websites published information and the Namibian Chambers of Mines. Since the mining companies adopt various sustainability reporting framework and their sustainability report are developed in accordance with the Global Reporting Initiative (GRI) and sustainability Accounting Standards Board Standard (SASB). The SASB standards' measurements extremely focus on mining industry metrics whereas the GRI standards include a diverse range of ESG metrics that are measurable and comparable throughout the mining industry. Thus, for the purpose of this research, the GRI was adopted since it is commonly utilised by various mines,

and it is comparable. Result of the examined mining companies is presented in aggregate and no name of companies are disclosed.

Table 6 below present the general disclosure of GRI reporting framework indicator that provide reference of disclosing by various companies. These were studied to gain an understanding of the ESG consideration at the mining industry.

Table 6 Global Reporting Initiative Indicators

CATEGORY	DISCLOSURE	LOCATION REFERENCE
ESG consideration	ESG Metrics	Approach to Responsible Mining
Environmental measure	Management Approach	Approach to Responsible Mining The environment
	Energy	The environment data tables
	Water and Effluents	Environment: water management Environment data tables
	Biodiversity	Environment: Biodiversity Planning for Mine Closure
	Emissions	Environment: Energy and Climate Change Environment data tables
	Waste	Environment: Tailings and Waste Environment data tables
	Environmental compliance	Environment: Compliance & Environmental Incidents
	Social measures Labour & Decent Work	Management Approach
Employment		People: Data tables
Labour Management Relations		People: retaining Talent
Occupational Health and Safety		Occupational Health and Safety Data Tables
Training and Development		Training Education and Development
Diversity and equal opportunity		Employee: Diversity and Equal opportunity Data tables
Emergency Preparedness		Occupational Health and Safety
Human Rights	Management Approach	Approach to Responsible Mining Employees community

Society	Non-discrimination	Employees: Non-discrimination and harassment
	Freedom of Association and collective bargaining	Employees: Freedom of Associations Community: Human Rights Commitments
	Child labour	Community: Human Rights Commitments
	Forced and compulsory labour	Community: Human Rights Commitments
	Security Practices	Community: Human Rights Commitments community: Security
	Human Rights Assessment	Community: Human Rights Commitments
	Management Approach	Approach to Responsible Mining Community
	Local community	Community
	Artisanal and Small Scale Mining	Community: Artisanal and Small Scale Mining
	Resettlement	Community: Resettlement
	Closure Planning	Planning for mine closure
Governance measures	Governance Structure	Corporate Governance
	Delegation Authority	Business ethics and Governance Principles
	Executive-level responsibility for economic, environmental, and social topics Consulting stakeholders on economic, environmental, and social topics Composition of the highest governance body and its committees	Corporate Governance
	Chair of the highest governance body	Corporate Governance
	Nominating and selecting the highest governance body	Corporate Governance
	Effectiveness of risk management processes	Governance: Risk management
	Review of economic, environmental, and social topics Highest governance body's role in sustainability reporting	Corporate Governance

Source: Global Reporting Initiative, 2012

4.8 Reliability and validity

The ideas of validity and reliability are essential components of any legitimate research. In summary, a scholar should always examine how trustworthy and legitimate the data and procedures used in a study are. Reliability, according to Joppe (2000), is "the degree to which results are consistent across time and an accurate representation of the entire population under study; if the results of a study can be repeated under a similar methodology, then the research instrument is regarded to be reliable".

On the other hand, validity "determines if the research actually measures that which it was supposed to assess or how truthful the research outcomes are," according to Joppe (2000). Does the research tool enable you to hit "the bull's eye" of your study object, in other words? By making the methodology and research findings available to future researchers, who must be able to produce the same results by utilising the approach provided, the validity and reliability of this study will be maintained. To validate the results in this investigation, the researcher triangulated data with other data sources.

4.9 Chapter summary

The adopted research methodologies and approaches that will be used in the research study were mentioned in this chapter. described the research methodology and the data gathering source in more detail. The sample strategy and analysis software were both described. The following chapter present the result of the study.

CHAPTER 5: FINDINGS OF THE STUDY

5.1 Introduction

The following are the result of the research study as per the content analyses of the sustainability report in attempt to answer the research question and achieve the objective of the study.

5.2 Mining Industry Economic performance

5.2.1 Gross Domestic Product (GDP)

As per the Namibian Statistic Agency report of 2020, the mining sector is the backbone of the Namibian economy and have been one of the top contributors to the Namibia GDP. The result presented below are for the economic performance that demonstrate the commitment of the Namibian mining industry contribution towards sustainable economic growth. The data was gathered from the Namibian Chambers of Mine Annual Review Reports and the following are the results presented:

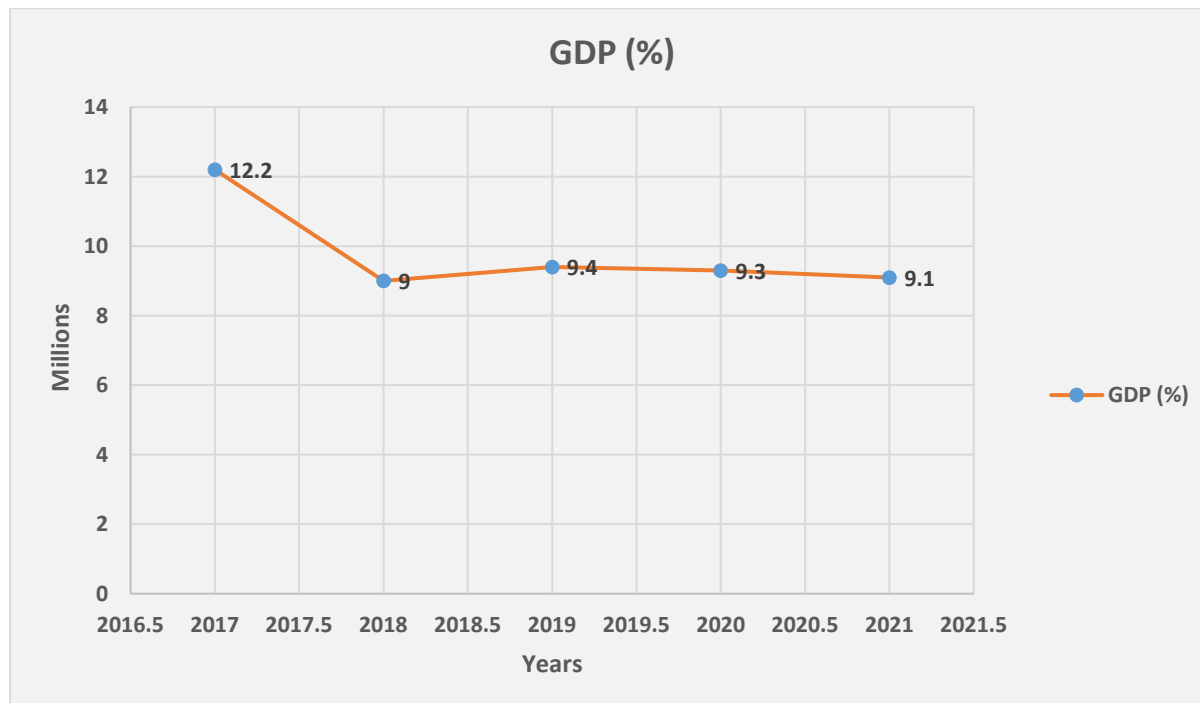


Figure 4 The Mining Industry's Contribution to Namibia's Gross Domestic Product

As depicted in the above figure 4, the gross domestic product decreased by 3.2% in 2017 as stated. However, from 2018 to 2021, the GDP began to increase slightly. Nonetheless, the

contribution remained positive despite the COVID 19 restriction measures that affected many businesses.

5.2.2 Gross capital formation

According to the Global Reporting Initiative index, the Gross Capital Formation represents the company's fixed investments and is viewed as an indication of the ESG matrix's performance and the forecast of the mining company's long-term sustainable returns.

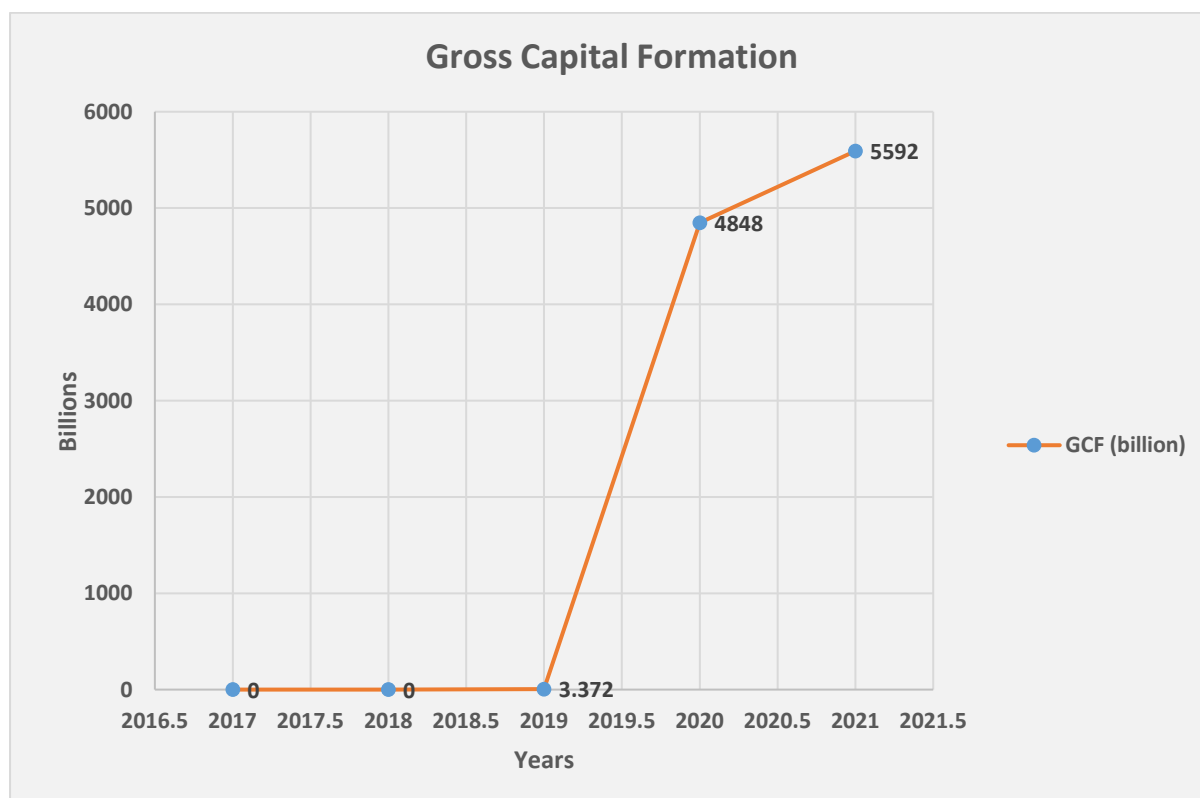


Figure 5 Mining Industry Contribution to Gross Capital Formation

As demonstrated in the figure 4 above, the contribution of mining industry to fixed investment to gross capital formation for two years, from 2017 to 2018 was relatively low. From 2019 to 2020 it has increased to N\$4 848 billions. While, in 2021, the mining sector obtained a GCF of N\$5592 billion. This was due to the construction of new mining vessels, the extension of open pit and underground mines at certain mines, which increased their investments.

Below is the result of the investment on CRS by the aggregate mining industry during the period of five years.

5.2.3 Corporate social responsibility

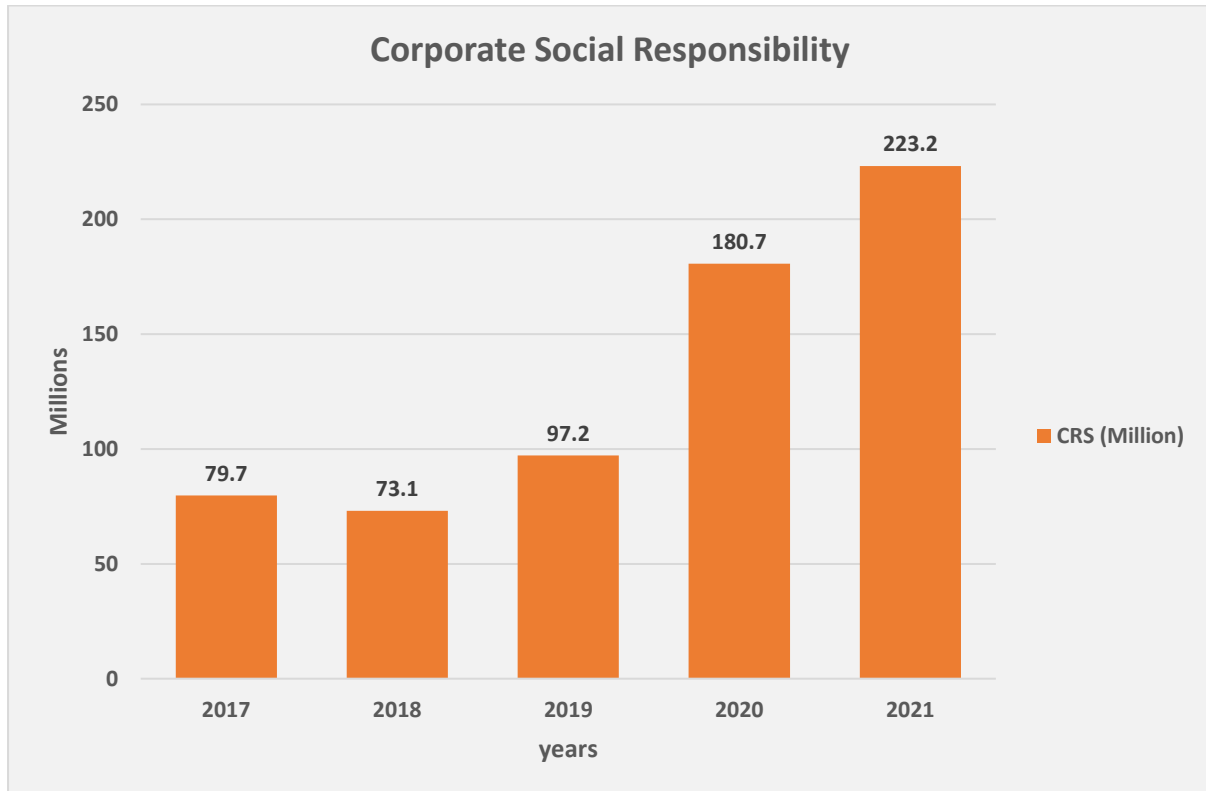


Figure 6 Corporate Social Responsibility contribution for the mining industry

As presented above, the result shows the commitment of the mining industry on Corporate Social Responsibility which indicate a significant increase in investment recorded over the years. In 2017 the CSR in the mining sector were N\$ 79.7 million and the increment of the CSR recorded from 2018(N\$ 73.1 million) to 2021(N\$ 223.2 million).

5.2.4 Local employment

The result below in Figure 6 indicates the number of local employments in the mining industry, the sector is known for its major contribution to the Employment quota.

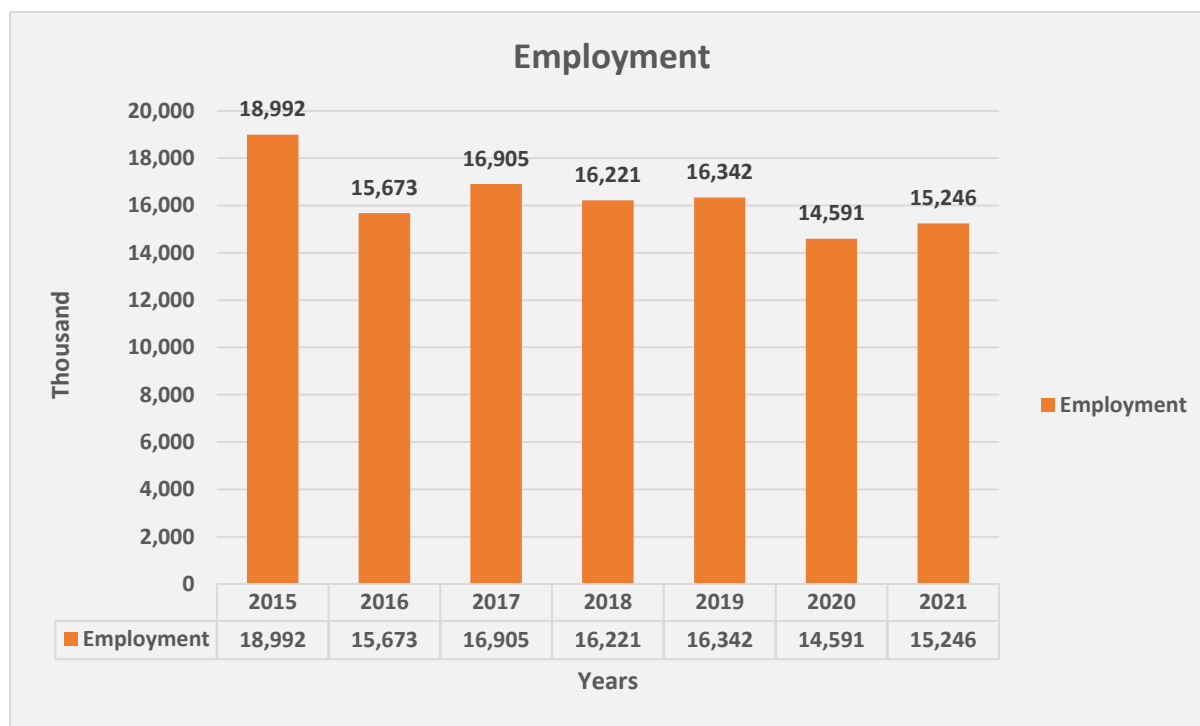


Figure 7 Employment in the Namibian mining sector

Figure 6 above present the number of local employments in the mining sector, this include permanent employment, temporary and contractual employment. The National Statistic Agency of Namibia reported that the mining industry employs the 3 % of the employment quota. This is confirmed by the result of the study which indicate that in 2021, total direct employment increased by 4.5% and the sector employed 15 246 people. The rise in employment was a result of the expansion of mining activities conducted by the mining companies, as well as an increase in exploration. The direct employment included 8,640 permanent workers, 1 103 temporary workers, and 5 503 independent contractors.

5.2.5 Local procurement

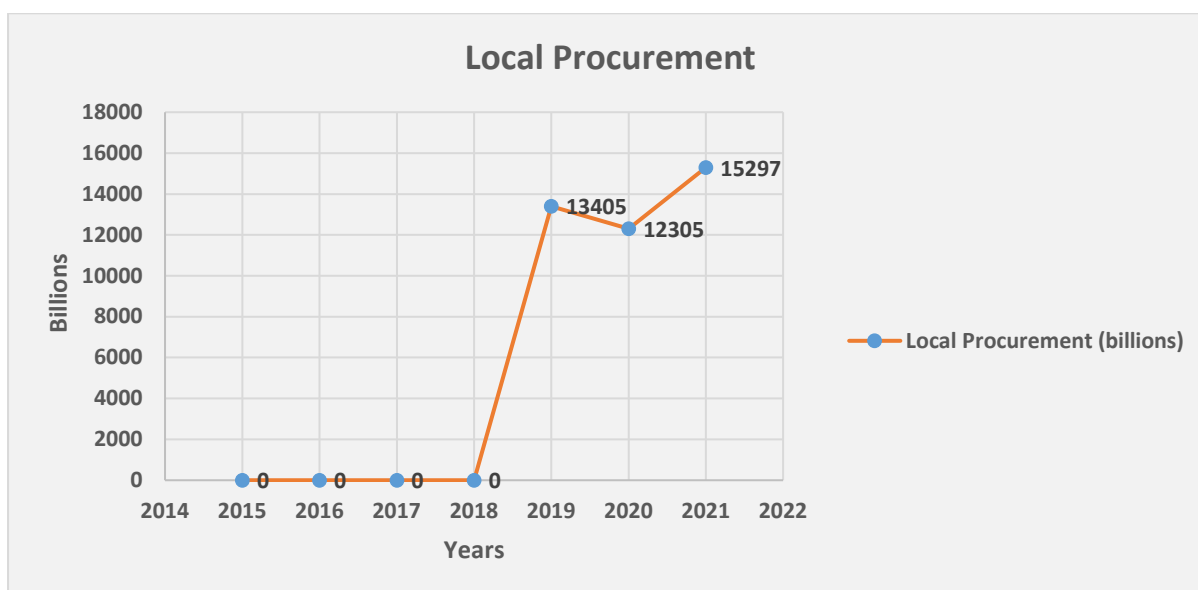


Figure 8 Mining Companies' Investment on Local Procurement

The results in figure 7 indicate that the mining sector has implemented the disclosure of investment in local procurement as part of its sustainability reporting, with a growth trend recorded over the last three years. In 2017 and 2018, the mining industry reported no investment in local procurement. However, in 2019, the sector reported an investment rise of N\$13 405 billions, which decreased to N\$12 305 billion in 2020. The investment rose in 2021, reaching a total of N\$15 297.

5.2.6 Training and development

The mining Company examined places a high priority on skill development in their sustainability report. The arguments are that it is investing in the advancement of local talent will empower their workers, our communities, and promote economic opportunity for the country. The following are the result of the trend of investment on training and development for employee in the mining sector:



Figure 9 Mining Industry Investment on Training and Development

As shown in the figure 8 above, the mining industry's investment in the sector's skill and research development has produced the results shown. The result indicates that the mining company's dedication to staff training and development has fluctuated during the previous five years. In 2017, the industry invested N\$184.9 billion less than in 2018, which declined in 2018. While, in 2019 the mining sector have doubled their investment effort in training and development amounting N\$196.4 billion. Whereas it declined in 2021 with N\$154.3 investment recorded.

5.3 ESG consideration measure in Namibian the mining industry

Most mining companies in Namibia are subsidiaries of international mines that are required to incorporate ESG and publish sustainability information in accordance with Global Initiative Reporting and Responsible Mining Standards, as determined by an examination of the data. Nine of the twenty evaluated mining companies have released sustainability disclosure detailing the ESG indicators employed, and the reporting system utilised. The mining companies have highlighted the importance of strong corporate governance, environmental stewardship, and social responsibility to the success of their businesses. The industry reported that Governance, environmental, and social metrics have been integrated into every facet of mining companies' operations and its everyday choices. As part of sustainable mining, they have proved their commitment to maintaining strong governance and transparency standards, and they recognise the need of an integrated approach to managing operations, risks, and

stakeholder relations. The following table present the level of disclose by the examined mining companies:

Table 7 Mining Companies' Level of Disclosure

Mining Companies	No disclosure	Disclosure to some extent	Disclosure to the large extent
Companies with easy accessible information and transparent on ESG practices implemented.	0 % (0)	10% (2)	45% (9)
Companies with related information on their websites	0% (0)	15%(3)	55% (9)
Company producing integrated report	N/A	N/A	N/A
Companies published sustainability reports	N/A	N/A	40% (8)
Companies reporting in line with the Global reporting initiative (GRI) index	N/A	N/A	55% (8)

The investigation indicates that 45% of the analysed mining companies have readily accessible information with ESG provided to a greater degree, whereas only 40% generate sustainability reports with explicit ESG indicators according to the Global Reporting Initiative index. While 15% of assessed mining companies have accessible but imprecise information on ESG practices, 50% do not have websites where information may be disclosed.

The researcher further observed that the mining companies reviewed were aware of ESG metrics and acknowledge them in the reporting structures. With the disclosure of mining companies, ESG was reported as matter of importance and critical to the mining operations that were disclosed on their websites. The awareness and importance of ESG was observed in every sustainability reports. The follow quotes were extracted from the participating mining sustainability reports.

“Building Forever helps us understand what we must do today to contribute to a world that truly values human rights, safety, integrity and equality, and in which thriving communities

and environmental protection are essential priorities”. [sustainability report for mining corporation A]

“For any mining company to be successful in the 21st century, a focus on the principles of sustainable development is essential. This shift in mining and operational practices will yield new opportunities in the emerging green economy, while mitigation the industry's impact of the environment and society.” [sustainability report for mining corporation B]

“We are committed to conducting our business in a fashion driven by sustainability.” [mining corporation C]

5.4 Sustainability reporting

The researcher noted that examine mining companies’ emphasis that reporting is crucial to assure their stakeholders that the environmental impact and social issues monitored and appropriate mitigation measures are employed to minimise the mining impacts to the bare minimum. In addition, they indicate that the cycle of sustainability reporting benefitted the mining companies as it is an opportunity for them to integrate new best practices, uncover system weaknesses, and ESG data collection improvement and the reporting procedures for the following years.

They further indicated that they are striving to be sustainable mining companies and reporting to maintain the reputation of the companies, protect workers and local communities as well the environment. This involves maintaining compliance with national legislation and international standards and making ethical and responsible governing decision.

The almost all the assessed mining corporations are subsidiaries of international organisations that have adopted the international reporting initiatives. This implies that mining companies must include ESG considerations into their everyday operations and decisions. The following are the sustainability reporting framework that are adopted by the mining companies in Namibia:

- Global Reporting Initiative (GRI)
- Sustainability Standards Accounting Boards (SASB)
- United Nation Sustainability Development Goals (SDGs)
- Task Force for Climate-related Disclosure (TCFD)

- Mining Association of Canada (MAC)

5.5 Global Reporting Initiative Categories and Disclosure

All the examined mining companies that report on ESG have developed sustainability disclosure in line with the Global Reporting Initiatives (GRI) standards, while four of the disclosing mining companies have incorporated both GRI and the Sustainability Accounting Standards Board Standard. Nonetheless, the research found that mining companies prioritised ESG topics that align with their sustainability strategies and reporting.

The following section will present the result of the ESG indicators that are particularly identified as of relevant credit quality by the different examined mining companies. The research also provides the general overview of how E, S & G pillars are integrated as per the sustainability reporting.

The reporting mining company believes that excellent corporate governance, environmental stewardship, and social responsibility are essential to doing business efficiently. They emphasise improving sustainable mining by incorporating governance, environmental, and social considerations into every aspect of our company and our day-to-day decisions. As a responsible mining business, dedicated to sustaining the high governance and transparency standards established, and acknowledge the significance of an integrated approach to managing operational risks, and stakeholder interactions.

5.6 Result on GR Reporting sustainability

Below is the result of the sustainability reporting of the examined mining companies as per the Global Reporting Initiatives (GRI) framework indicators. The three pillars of sustainability are presented with the adopted metrics in the mining sector.

5.6.1 Environmental measures

This section presents the result of material environmental factors priorities the examined sustainability reporting companies. All studied mining corporations have implemented measures through the Environmental Management Plan and biodiversity preservation plans guided by national legal and regulatory frameworks. The results reveal that every mining

company has an environmental management system that monitors the risks associated with their operations, such as pollution and waste management, in order to prevent and minimise environmental accidents.

5.6.1.1 Climate change

The results of the examined mining companies demonstrate that climate change strategies were incorporated in their framework. The investigation began by determining if mining companies publish their climate change approach. The study then determined whether mining firms disclose frequent monitoring of CO₂ emissions and quantified greenhouse emission indicators. Then, evaluate the mining company's dedication to sustainable energy.

The examined companies indicated that they monitor monthly energy use throughout their business operations. This includes fossil fuel burnt on-site, purchased electricity, and other indirect emission. They emphasis the continuous optimisation of their energy management by various adopted strategic interventions and improving operational.

The mines have identified climate risks and energy increment as threat risks that pose the danger of rising production costs and a shrinking profit margin that have a possibility of mining companies not meeting their production goals.

Thus, the analysis deduced that mining companies are prioritising the energy and emissions management by employing increasing resource efficiency and better stakeholder collaborations. They indicate the efforts of supporting green hydrogen project of Namibia is implementing by installing of solar renewable energy power and researching on the possible hybrid vehicles to minimise all activities' emissions and long-term expenses

The research confirmed the mining company's commitment to develop strategies for reducing their carbon emissions and carbon footprint, which they claim is essential to minimising the long-term impacts on the environment and the responsibilities of being a responsible corporate citizen.

5.6.1.2 Water management

The researcher examines the water management practices of mining corporations based on a variety of variables. The analysis began by determining whether the organisation has a water management policy. The researcher compared the stated water recycling practices of mining corporations. Then, determined the extent to which the company monitors and quantifies water use, has strategies for lowering water usage, and is achieving its own water usage target.

The examined mining companies highlighted managing their water resources by efficiently utilising water, safeguard water resources, and engage other stakeholders to manage water catchment zones. Moreover, to maintains their water permit to operate issued by Department of Environmental Affairs. They emphasise the commitment to responsible and sustainable water usage by integrating water management into their policy, which emphasises the efficient reuse and recycling of water. There is evidence that mining corporations gather and manage water data at all mining activities and integrate it into site-wide water balances. They state that they conduct yearly internal and external audits to guarantee compliance with all water-use permit requirements. In addition, they conduct Biomonitoring at all sites in order to evaluate the influence of mining activities on the water bodies around mining operations. At the same time, conducting monitoring of pollutants in surface and groundwater at several preset points inside and outside the mining activities.

As a result, the industry is consulting with stakeholders to develop strategies for sourcing water to enhance water availability across all the regions where water stress is prevalent.

5.6.1.3 Waste management

The examined mining companies disclosed on the waste management system adopted to manage the impact of waste on the community and environment at large. The strategies adopted are reported in compliances to the Namibian and ISO standards that are audited to ensure conformity. The main approaches reported includes safe handling waste, and managing through recycling, reuse and reduce waste of all waste generated to prevent pollution.

The mining companies' emphasis the applied principals of minimising waste, reuse and recover waste and treatment of waste. With minimisation, the mining companies indicated the plan designed and separate waste to reduce waste by contracting approved supplier and controlled

procurement. While the adopted reuse and recovery strategies focus on reusing packaging material and if not possible return them to recycling facilities. Whereas, with the treatment, mining companies' emphasis treating waste were possible to minimise the risk to the environment. However, they indicated that were the thrice are not possible mining companies then opt to dispose the waste at the approved waste disposal site in their region of operation.

5.6.1.4 Biodiversity management

The examined mining companies indicated that biodiversity conservation was incorporated in their mining operation decision-making throughout the mine lifecycle. Moreover, they adopted the Biodiversity Action Plan are targeting the net positive impact on biodiversity by evaluating the biodiversity footprint and impact of mining operations. They reported that engagement with other stakeholders were conducted in effort to identify biodiversity values and better understand the risks of mining operation on particular species and ecology. In addition to mitigate, rehabilitates and restore the environmental impact generated. They also indicate the campaigns on biodiversity awareness to sensitise the workforce and community on biodiversity.

5.6.1.5 Mining closures

The examined mining companies have asserted that in accordance with the Namibian laws, are legally obliged to ensure the rehabilitation of the land used and any associated infrastructure to an acceptable condition by the end of the mines closure. According to the examined mining companies, procedures for mine closure were devised during the design process, which considered every component of the mine's infrastructure and site, from construction and operation through decommissioning. Most of the mining companies under investigation indicate that their rehabilitation, restoration and closure Plans are active documents that change and become more complex as time goes on. It starts with the design stage of the mine and continuing through construction, the mine's operating life, and finally decommissioning, closure, and post-closure whereby data is updated and altered regularly to reflect changes in the situation.

5.6.2 Social measures

5.6.2.1 Community development

In focusing on social measures, the researcher deduces that mining company take pride in working in the sustainable community since it offers them company with specific advantages. The examined mining emphasised adopting long-term community development plans that encourage the enhancement of quality of life as it is crucial to maintain positive community connections.

Fifteen (15) of the 18 mining companies examined, include some degree of community involvement mechanisms such as public meetings, committees, presentations, and newsletters, although they are often confined to information-sharing rather than more meaningful and collaborative initiatives. A few firms demonstrate that they assess community satisfaction with their engagement procedures' results. However, there is limited evidence of firms collaborating with communities on these engagement procedures' decision-making, monitoring, and evaluations. Companies that build inclusive, collaborative methods with impacted communities may guarantee that their operations are more responsive to the requirements and expectations of these stakeholders.

During the result analyses, the mining companies have puts strong emphasis on Corporate Social Responsibility (CRS) and increased investment to promote community initiatives that have the potential for long-term benefits to their host community and the Namibian broader at large. In their disclosure, mining companies emphasise various strategies of CSR, including employment policies, health and safety, community development, and corporate donations. It is commendable that all the examined mining company have aligned CSR targets with the United Nation Global Sustainable Development (SDGs) Goals.

The researcher also observed that most of the mining company have detached the CSR department from their main operations to focus on implementing and coordinating corporate social responsibility in the Namibian community. This includes community development and education development projects and charitable work. Below is summary of the mining industry project as Corporate Social Responsibility and thereafter the investment recorded during the five examined financial years.

Table 8: Summary of CSR in the mining industry

Example of projects funded
<ul style="list-style-type: none"> • Contribution towards fighting against Covid-19, Sourcing of oxygen concentrators for donation to the Ministry of Health & Social Services, providing stationery supplies and COVID-19 Personal Protective equipment; • Donation of beds and mattresses for the establishment of temporary COVID-19 treatment stations; • SME Development & Poverty Alleviation programs for marginalised communities; • Sanitary pad drive for underprivileged girls; • Youth Opportunities (MYO), Children with Handicap in Action in Namibia (CHAIN), and the donation of a boxing ring to the Boxing Academy. • Providing food to needy households. Upgraded the kindergarten's sanitary facilities and gave sanitiser, disinfectant, and cleaning supplies; • To enable local community to achieve economic independence from mining operation by ensuring the proclamation of town into self-governing municipality.

5.6.2.2 Health and safety

Regarding worker safety, the research determined whether the firm has produced and published a health and safety policy with a zero-accident target for the mining company. Then, determine if the organisation has adopted health and safety requirements.

The examined mining companies reported the prioritisation of health and secure workforce in order create a conducive working environment for human resources development to retain and attract competitive employees. The result shows the commitment to the safety of employee by ensuring that production facility adheres to the highest standards, which requires that all operating spaces remain in excellent condition. All assessed mines have also indicated that they have implemented the Occupation Health and Safety Management System to govern their operations with occupational health and safety issues. They further indicated that third-party audits are conducted to assess the conformity of the systems. In addition, the mining firm ensures compliance with Namibian laws, such as the Atomic Energy and Radiation Protection Act of 2005, by adopting a Radiation Management Plan to protect the health of its employees, community members, and the environment.

5.6.3 Corporate governance

The researcher has deduced from the examination that corporate governance is prevalent in the mining industry. The examined mining companies indicates that the approaches to business integrity the main priority to remain competitive and compete fairly, lawfully, without unlawful involvement, and in accordance with international reporting standards. The reviewed mining companies have also adopted business integrity policy and prevention of corruption procedures as code of conduct for employees to embodied values. The zero-tolerance policy against all sorts of corruption, bribery, theft, extortion, embezzlement, fraud, and abuse of business property.

- The researcher has noted that the intention of mining companies to uphold their responsibility toward the workforce, communities, government and investors as well as consumers and suppliers. The three approaches to good governance disclosed by the mining companies include;
 - Thrive to act in a way that earns the confidence and trust of the public in all matter;
 - To undertake mining operation in an ethical, law-abiding, and responsible manner;
 - Ensuring that all workers and representatives are adhering to strictly ethical and legal standard of the mining companies by ensuring that they are acquainted with what is required of them; and
 - Understanding and engaging positively with the surrounding community, and to support their improvement by employing the philosophies of mutual respect.

The mining companies' Board of Directors oversee corporate strategy, significant action plans, and important policies in the companies. In addition, they indicate that they to review operational performance. This involves identifying risks that affect the company's long-term viability and monitoring risk management and internal controls, compliance management, corporate governance, business strategies and key performance indicators, such as non-financial criteria and yearly budgets.

Majority of the examined mining companies revealed that they established the Board Health, Safety, Environment, and Community (HSEC) Committee which is charged with overseeing mining companies' adherence to human rights norms and human rights performance. Whereas, through regularly planned and ad hoc meetings, the Board fulfils its mission directly and through its committees. Current Board Subcommittees include the Audit and Risk Committee and the Sustainable Development Committee Recognising the significance of doing business

responsibly, sustainably, and for the benefit of all stakeholders, and the contribution that the firm might make to the sustainable development of Namibia. It aids the Board in carrying out its obligations and responsibilities to Namibian stakeholders such as workers and local communities.

5.7 Drivers of ESG consideration in the mining sector

The findings of the research demonstrate the factors driving ESG consideration in the mining industry. The participating firms cited a variety of objectives, such as building a strong company through enhancing their stakeholders', partners', and customers' confidence. Sustainability reporting guides a mining company's partnership with the government and local communities to provide long-term socioeconomic benefit. The following are the drivers of ESG consideration in the mining sector.

- The mining company indicated that ESG disclosure build trust with the stakeholders and supports the granting of license to operate;
- Maintaining the relationship between mining company operating with local communities and the entire society at large is needed in order to establish an open and accountable dialogue that leads to greater mutual trust;

Maintaining National level SDGs accountability by engaging with government, public society, academic institutions and other stakeholder on the opportunity and challenges, is also important. The mining companies' states that the above have advantage on the long-term operation of the mines.

5.8 Chapter summary

The section provided the result of the examined mining companies in answering the extent of ESG consideration in the Namibian mining sector. The mining sector was aware and ESG factors are integrated in the mining business operation, all though the practise are voluntary and not a legal requirement in Namibia but an international obligation demanded by investors and international reporting framework. The section presented the observation of the study with regards to the economics performance of the mining companies. The ESG key measures that are considered crucial and integrated in the reporting framework of examined mining companies' operation and the drivers of ESG consideration in the mining sectors. This shows that the examined mining companies are demonstrating the ESG practices.

CHAPTER 6: DISCUSSION

6.1 Introduction

The previous chapter presented the result of the key findings and outline how literature is related to the findings presented. This chapter discussed the result by answering the following research questions of the study:

- What are the sustainability reporting framework implemented by mining companies in Namibia?
- What are the ESG factors that the mining companies have integrated into their business operations?
- What are the driving force for ESG in Namibian mining industry?

The structure started off with the key research findings of the sustainability reporting, the ESG implementation and there after the driving force of ESG consideration in the mining industry.

6.2 Sustainability reporting

As part of their sustainability reporting, the mining companies indicated that they only cover key material issues of ESG pillars that are crucial to their business model and stakeholders. This supports the claim made by Bilham (2021) in his research, which argues that harmonisation of different standards is necessary for uniformity and consistency in sustainability reporting, since the current different reporting allow companies to choose ESG metrics that align with their business strategy. According to Fonseca (2010), the adoption of GRI standards by mining firms is driven by the fact that it helps their corporate repetitive management and market competitiveness by promoting the sustainability performance they desire to promote.

On the other hand, the depth of reporting of those material issues differ per mining companies as some mining companies are explicit and quantify the progress and result generated with reference while other mining companies report on the metrics are generic with no quantification of data and no reference made. This is quite challenging as metrics reported by the mining companies are not comparable as ESG practice indicators are not uniformity and there is no mandatory disclosure law that enforce what mining companies should adopt and what to be disclose.

6.3 The ESG Factors implemented by the mining companies?

The analysis of data revealed that in the reporting provision of mining companies, the economic aspect that received major attention are the economic performance that include revenue and income, Gross Domestic product (GDP), Gross Capital Formation (GCF), trade and investment have and the progress toward addressing SDGs. Although, many mining companies are still reluctant to report provisions, those that have reported provisions indicates major progress in the reporting framework.

In general, it is evident that climate change is at the top of those mining companies reporting provisions from the analysis conducted. This is followed by social aspect, human rights and labour matters discussion on the high rate. Whereas anti-corruption features attract the greatest attention among governance related subjects.

Heenetingala et al. (2015) argue that mining corporations have adopted and set ambitious ESG goals to make an impact as result of international standards. This study shows that ESG consideration was demonstrated and confirmed by the factor that the mining companies conform to the principal of Global Reporting Initiatives. Furthermore, many that are signatories of international organisation adopted also the Sustainability Accounting Standards Board Mining and Metals Sustainability Accounting Standard (SASB Standard).

The research observed that majority of mining company are embracing responsible mining practices and emphasizing the importance of it their reporting framework. They emphasized supporting and aligning their operation to the Sustainable Development Goals. Many have Incorporated reporting structures that follow sustainability and ESG metric.

The analysis conducted revealed that the examined mining companies that disclosed has placed emphasis on the prioritisation of sustainable development and aligned its operations with the sustainable development goals in order to ensure sustainable mining. The industry indicated that they strive to continually and significantly contribute to the UN Sustainable Development Goals. This support the argument by Famiyeh (2021) who argue that mining industry adopt sustainable measures to ensure that the mining guideline and procedures are accompanied by sustainable process in order to protect and maintain the integrity of mining environment and the well-being of community. The sector targets the 11 SDG goals that they can continued to

improve to make a significant impact. This has been observed in the data presented by evaluated mining companies.

The analyses show that mining companies have prioritised sustainable mining by integrating ESG strategies that focused at ensuring that their operations and stakeholders receive long-term benefits as a result of their actions. This involves engaging with local people in a respectful manner, monitoring and managing the health and safety of all mine employees, quantifying social and environmental impact, and making ethical and transparent strategic business decisions. Laurence (2011) argued that the success of a company depends on the company's capacity to integrate and sustain positive relationships with several groups of stakeholders. Therefore, notifying stakeholders about the mining company's good management in attaining sustainability would promote its development, expansion, and success.

Furthermore, the sustainable report disclosed by mining companies emphasises that its operations and decisions on production, the environment, and social responsibility are designed to leave a positive legacy for the communities impacted by mining operations. This agrees with the legitimacy theory that states that ESG disclosure is done to acquire societal legitimacy for environmental, and social consequences generated by companies' activities (Deegan, 2014).

6.3.1 Environmental initiatives implemented by the mining companies

Literature review indicated that environmental sustainability is a concept where mining companies safeguard natural resources and effort of protecting the environment. Emphasising that companies should ensure that their operations have no negative bearing or undesirable change on the environment (Buallay, 2020). The analyses of the sustainability reports have shown that the environmental aspect that received greater attention in the reporting provision of the mining companies, are climate change, particularly greenhouse gas emissions, energy, water and waste. The provisions of addressing pollution, waste, and dangerous chemicals, environmental compliance and hazards.

The mining companies reported on their strategies towards the zero-carbon undertaken. With the reported goals of achieving carbon neutrality and energy efficiency by 2030. They further shown how the predicted carbon neutral and energy efficiency is foreseen to benefit the community with the investments in wind turbines and solar energy that produce renewable energy. In addition, several miners have shown initiative by engaging stakeholders on how to

invest in green technologies to help the ongoing national project on Green Hydrogen. While others seek equivalent investment opportunities in green technologies, such as hybrid vehicles, equipment, and machinery, others follow suit. This demonstrates that the mining industry is dedicated to addressing and mitigating the impacts of climate change and increase energy efficiency.

The analyse also noted that water security is a concern due majority of the mining companies are operating in the region with limited water supply. The strategies implemented by the mining companies were monitoring and quantify the amount of water consumption and reuse in their operations, with the disclaimer that a part of their facilities is not metered to accurately measure water usage and reuse. The analysis indicated that the mining sector did not have stringent water reduction targets to explore means of water sources irrespective of working in water stressed condition.

The research found that majority of the evaluated mining corporations are ISO14000-certified and are subject to an annual international audit to ensure environmental conformity and compliance. This demonstrates that the mining sector is devoted to improving environmental performance and remaining competitive, as Singh et al. (2015) claimed in their research that companies aspire to stay competitive by upgrading their environmental management systems. Bansal and Bogner (2002) their study underlined that it is significant for the organisation to have Environmental Management System certified since the certification improves an organisation's credibility.

The research indicates the biodiversity strategies on net-positive effect on biodiversity on the grounds where mining companies operate. They indicate that, they intend to preserve as much ecological diversity, as existed before the mining operation started. Also, reported that they seek to restore land as it is decommissioned, rather than waiting for all mining operation to cease. A few have published Biodiversity Strategies that blends biodiversity and business management and mandates that all enterprises have strategies for the existing and future usage of company-managed property to identify all threats and opportunities to biodiversity and to rank the necessary measures to solve them. Bullay (2020) claimed that the environmental sustainability of an institution is determined by how it protects natural resources and engages in environmental protection efforts. This is indicating the commitment of the mining industry towards ESG integration.

6.3.2 Social measures initiatives reported by the mining companies

The social aspect that received greater attention in the reporting provision of the mining companies were the local employment and procurement, community engagement, human rights, health and safety.

The researcher deduced from the result that; mining companies prioritise local employment who formed a large chunk of the mining industry employees. The reports highlighted the benefits of local employment which indicates that the wage bill of the mining industry is circulating within the country, and it is supporting and benefitting other sectors of the economy. Moreover, according to the annual remuneration study conducted by PWC, the mining industry offered Namibians much higher incomes and more appealing perks than other industries. This indicate how much the industry is contributing to sustainable development goals through collection of taxes (Pay-as-you-earn and Value addition). The mining companies reports also indicates their proactive commitment to non-discrimination against any type of demographic group.

As the mining environment is regarded as a high-risk environment for the health and safety of employees, the mining companies have reported on the strategic measure to safeguard the health and safety of the workers that exposed to this environment. The analyses indicated that the mining industry, through the Namibian Chamber of Mines, is collaboratively addressing safety problems to improve the effectiveness of the peer review process to ward Zero injury. The study reveals that the industry is pushing the drive to achieve zero injury and the safest working conditions and environment for mining employees and contractors. In their study, Lins and Horwitz (2007) argued that workplace injuries and occupational illness are avoidable and can be prevented, and that zero harm can be archived with stringent Occupational health and safety strategies, regular inspection of non-negotiable principles, and a commitment to non-negotiable principles.

Nadae et al. (2019), argue that companies should ensure that safe environment for workers and ensure ongoing training process. The mining companies reported on initiatives of skills development which include sponsoring scholarships, technical training, long-term trainees, self-study support, leadership training, and safety awareness.

6.3.3 Governance measures by the mining companies

The governance measure that mining companies focus mainly on accountability, anticorruption policies. The structure and leadership which includes the function of the board chair and non-executive directors, ethics and integrity, and stakeholder engagement come next. The increasing participation of boards is a significant trend.

The mining corporation under scrutiny admits that governance frameworks and formalised procedures assist in ensuring that it keeps its promises and complies with sustainability standards. They pledge to uphold the best corporate governance principles.

6.4 The drivers of ESG practice in the mining sector?

The reviewed report has indicated that the legitimacy of mining firms' operations in Namibia and their relationships with host communities and the government are increasingly dependent on their track record as good corporate citizens. Moreover, the mining companies have indicated that they set up operations to minimise and control their environmental impact while promoting the sustained development of host communities and towns.

The study has revealed that interacting proactively with local communities and other societal actors foster a high-quality debate which increase recognition of the benefits of responsible mining; resulting into mutually acceptable relationship between mining companies and society; and generates an ethical value chain that inspire human rights and environmental stewardship. This is in line with the triple bottom line theory by Elkington (1997) which state that the business performance success is measured by applying integrating environmental, social and economic lines. This driver the mining company to consider ESG pillars.

6.5 Chapter summary

The result of the study provided the understanding of the extent to which ESG practices are integrated and the driving force in the mining industry. The research study has presented the key ESG factors integrated in the mining sectors. Thus, the result presented formed bases of the conclusion and recommendation that will be discussed in the following chapter.

CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusion

The objectives of this study were to archive the following as indicated in Chapter 1:

1. To investigate the extent of ESG practices in the Namibian Mining Sector; and
2. To assess the factor that drives the ESG practices in the mining industry.

The purpose of the research was to get a deeper understanding of the ESG disclosure of Namibian mining companies, with a particular emphasis on environmental, social, and governance initiatives and how they assist to attaining sustainable development and mining.

The results of the research indicated the strengths and weaknesses of the applied ESG pillars, which may be leveraged to provide recommendations for improving ESG practices. The evaluation was based on the criteria defined by the researcher in accordance with the Global Reporting Initiatives and literature studies.

The provided study results were consistent with other studies done in different countries and verified findings from previously conducted studies on the same topic. This study indicates that there are national and international laws, frameworks, and guidelines that guide ESG practice. Most mining companies exhibit a compliant approach toward the incorporation of environmental, social, and governance (ESG) aspects into their operations and day-to-day decision. The reporting of sustainability of the mining companies is aligned with the Sustainability Development Goals. This research validates the conclusions of a study by UNEP FI (2007), in which companies agreed that stricter law would be a major driver of ESG integration since it would make compliance mandatory.

Even though ESG and corporate governance requirements are primarily voluntary in Namibia, this study discovered that ESG integration seems to be transitioning in the emerging market as ESG consideration becomes more significant and relevant. Nevertheless, despite the abundance of frameworks and legislative processes in place to govern and inform ESG practices, there is still a lot of talk and little action, and too few examples of ESG considerations embedded into mining operation and decision-making strategies that render ESG issues irrelevant.

According to the study results on ESG consideration, most evaluated mining companies have

disclosed their ESG practices. The level of ESG disclosure differs across mining companies. Even though most mining corporations have embraced Global Reporting Initiatives and international standard operational certification, the environmental and social performance metrics provided vary. However, since it is not a statutory requirement for institutions to share information on their websites publicly, the overall result reflects a favourable response to ESG concerns in the industry. Therefore, the chance is that mining companies who withheld information from the public are internally compliant. In addition, the driving for ESG consideration recognised by mining corporations in their disclosure includes investors, compliance, and reputation.

The research revealed that mining companies are accountable for ESG integration in order to address sustainable development challenges via the creation of strategy and the specification of actions implemented. The duty of social change that mining companies declare in their ESG performance in their annual integrated or sustainability reports, which are made public in the interest of openness and accountability. Additionally, for investors to choose mining companies in which to invest.

Viviers and Eccles (2012) in their study asserted that, investors perceive that information in annual reports of companies inadequate for decision-making. The research identified the weakness in the disclosure that mining companies are selective on the activities to disclose and that there is no consistency in the disclosure of ESG performance as mining companies generalise ESG topics and do not disclose explicit issues, making it difficult for investors to compare and identify the ESG performance of certain mining companies. This indicates that emerging market mining companies have more work to do to enhance their ESG disclosure in terms of environmental and social information.

The study reveals that sustainability approaches that include ESG considerations might be informed by ESG analysis based on thorough and consistent disclosure. Investors must comprehend if companies are achieving their transformation and ESG performance goals, as failure to do so puts predicted long and short terms returns at risk. Incomplete disclosure hinders their capacity to detect underperformance and factor it into investment decisions, as well as establish their contribution to national goals, laws, and best practices. Mining companies must realise that selective ESG disclosure makes it difficult to analyse the effect of ESG concerns on corporate performance.

7.2 Recommendations

The following are the recommendations of the study:

- Investors are becoming more conscious of the need to include environmental, social, and governance (ESG) factors into mining operation and decision-making. Thus, mining companies should avoid the conventional financial performance strategy and instead embrace and understand the relevant ESG factors that investors examine. By identifying and resolving these factors, mining companies might achieve long-term success.
- With reference to ESG disclosure, mining companies needs to focus more attention on the three ESG pillars. Each component should be reported in a way that allows all stakeholders and management to utilise the information. The ESG information given should be quantitative and standardised, allowing stakeholders and investors of ESG reports to compare the reports of various mining companies.
- Collaboration between reporting initiative such as the GRI and UN Global Compact, and academics might bolster efforts to expand and enhance ESG reporting.
- Educators in the discipline of management sciences at higher institutions might impact ESG considerations in the Namibian growing economy. Historically, academics have mostly educated commerce students on fundamental financial principles. There is a need to integrate ESG principals in our educational system. Students of commerce will acquire knowledge on ESG strategies, enabling them to implement once entering the market. It is crucial that these students get a comprehensive education on financial, ESG, and ethical aspects. Educators might thus include ESG-simulated scenarios and case studies into teachings so that students can analyse the issues and give viable solutions.

7.3 Future research suggestions

- This research study employed secondary data, academics can apply the primary data to get insight of mining companies by conducting interview with the managers and board of directors to establish the ESG aspect consider in the similar or other sectors of economy.
- Since numerous studies were done on ESG consideration and financial performance in other countries, future research could also possible look into similar case of Namibia.
- Future research can consider comparative study with other African countries on ESG context

As competition for resources continues to intensify, sustainability related issues will continue to undermine the long-term viability of corporations and society. Thus, it is more crucial than ever for mining companies to recognise corporate sustainability concerns and aggressively manage their ESG risks. It is known fact that ESG risks are not uniform across industries. Therefore, mining companies should apply a distinct strategy to handle their most significant operational environment threats. The industry have potential to improve and do better for the benefit of the economy, environment and investors.

REFERENCES

- Adams, C.A. & Whelan, G. 2009. Conceptualising future change in corporate sustainability reporting. *Accounting, Auditing & Accountability Journal*, 22(1): pp.118-143.
- Adams, M., Thornton, B. & Sepehri, M. n.d. The impact of the pursuit of sustainability on the financial. *Journal of Sustainability and Green Business*, pp. 1-14.
- Advisors, D.C.C., 2012. Sustainable investing. *Establishing Long-Term Value and Performance*.
- Alhaddi, H., 2015. Triple bottom line and sustainability: A literature review. *Business and Management Studies*, 1(2), pp.6-10.
- Allen, A., 2003. Environmental planning and management of the peri-urban interface: perspectives on an emerging field. *Environment and urbanization*, 15(1), pp.135-148.
- Almeyda, R. & Darmansyah, A. 2019. The influence of environmental, social, and governance (ESG) Disclosure on Firm Financial. *IPTEK Journal Proceedings Series*, Issue 5.
- Ameer, R. & Othman, R. 2011. Sustainability practices and corporate financial performance. *Springer Science*, p. 108:61–79.
- Amina Buallay. 2020. Corporate social responsibility disclosure and firms' performance in Mediterranean countries: a stakeholders' perspective. *EuroMed Journal of Business*. pp.1-16. and Tourism.2-32.
- Aquilani, B., Silvestri, C., Ioppolo, G. & Ruggieri, A. 2018. The challenging transition to bio-economies: Towards a new framework integrating corporate sustainability and value co-creation. *Journal of Cleaner Production*, 172: pp.4001-4009.
- Arias Fogliano de Souza Cunha, F. & Samanez, C.P. 2013. Performance analysis of sustainable investments in the Brazilian stock market: a study about the corporate sustainability index (ISE). *Journal of Business Ethics*, 117(1): pp.19-36.
- Atan, R., Alam, M.M. & Said, J. 2017. Practices of corporate integrity and accountability of non-profit organizations in Malaysia. *International Journal of Social Economics*, 44(2): pp 2271-2286.

- Audouin, M. & de Wet, B. 2012. Sustainability thinking in environmental assessment. *Impact Assessment and Project Appraisal*, 30(4): pp. 264-274.
- Audouin, M. & Hattingh, J. 2008. *Exploring sustainability science-A Southern Africa perspective: Moving beyond modernism in environmental assessment and management*. 1-34
- Azorín, J.F.M., Cortés, E.C. & Gamero, M.D.L. 2019. Green management and financial performance: a literature review. *Management Decision*, 47(7): pp. 1080-1100.
- Bansal, T. & Bogner, W.C. 2002. Deciding on ISO 14001: Economics, institutions, and context. *Long Range Planning*, 35(3): pp. 269-290.
- Barman, E. 2018. *Doing well by doing good: A comparative analysis of ESG standards for responsible investment*. In Sustainability, stakeholder governance, and corporate social responsibility. Emerald Publishing Limited.
- Baumgartner, R.J. & Rauter, R. 2017. Strategic perspectives of corporate sustainability management to develop a sustainable organization. *Journal of Cleaner Production*, 140, pp.81-92.
- Bewley, K. and Li, Y., 2000. Disclosure of environmental information by Canadian manufacturing companies: a voluntary disclosure perspective. In *Advances in environmental accounting & management*. Emerald Group Publishing Limited.
- Bilham, N.T., 2021. Responsible mining and responsible sourcing of minerals: opportunities and challenges for cooperation across value chains. *Geological Society, London, Special Publications*, 508(1), pp.161-186.
- Blumberg, B., Cooper, D. & Schindler, P. 2014. *EBOOK: Business Research Methods*. London: McGraw Hill.
- Boffo, R. & Patalano, R. 2020. *ESG investing: Practices, progress and challenges*. Éditions OCDE, Paris.
- Bonini, P. 2020. When tomorrow comes: technology and the future of sustainability learning in higher education. *Environment: Science and Policy for Sustainable Development*, 62(4): pp.39-48.
- Braam, G. and Peeters, R., 2018. Corporate sustainability performance and assurance on sustainability reports: Diffusion of accounting practices in the realm of sustainable

development. *Corporate Social Responsibility and Environmental Management*, 25(2), pp.164-181.

Brady, K., 2021. *ESG performance expectations in mining*, s.l.: Ausenco | Hemmera: <https://ausenco.com/assets/images/Environmental-Social-and-Governance-ESG-Performance-Expectations-in-Mining.pdf> [2022, September 22]

Brammer, S. & Pavelin, S. 2006. Voluntary environmental disclosures by large UK companies. *Journal of Business Finance & Accounting*, 33(7-8): pp.1168-1188.

Breuer, N. & Nau, C. 2014. *ESG performance and corporate financial performance*. Department of Business Administration.

Brown, H.S., De Jong, M. and Lessidrenska, T., 2009. The rise of the Global Reporting Initiative: a case of institutional entrepreneurship. *Environmental politics*, 18(2), pp.182-200.

Brown, H.S., de Jong, M. and Levy, D.L., 2009. Building institutions based on information disclosure: lessons from GRI's sustainability reporting. *Journal of cleaner production*, 17(6), pp.571-580.

Brown, L.D. & Caylor, M.L. 2006. Corporate governance and firm valuation. *Journal of Accounting and Public Policy*, 25(4): pp.409-434.

Bryman, A. & Bell, E. 2014. *Research methodology: Business and management contexts*. Oxford University Press Southern Africa.

Bryman, A., 2004. Qualitative research on leadership: A critical but appreciative review. *The leadership quarterly*, 15(6), pp.729-769.

Buallay, A., 2018. Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. *Management of Environmental Quality: An International Journal*.

Cañón-de-Francia, J. and Garcés-Ayerbe, C., 2009. ISO 14001 environmental certification: a sign valued by the market?. *Environmental and resource economics*, 44(2), pp.245-262.

Carroll, A.B. & Shabana, K.M. 2010. The business case for corporate social responsibility: A review of concepts, research and practice. *International Journal of Management Reviews*, 12(1): pp.85-105.

Caudron, Emilien 2022. *Measuring ESG Performance: A Text Mining Approach*. Louvain School of Management, Université catholique de Louvain.

CFA Institute, [Online] available: <https://www.cfainstitute.org/-/media/documents/protected/esg-candidate/pdf/2021-Chapter3.pdf> [2022 August 20]

Chelawat, H. & Trivedi, I.V. 2016. The business value of ESG performance: The Indian context. *Asian Journal of Business Ethics*, 5(1): pp.195-210.

Clarkson, P.M., 2012. The valuation relevance of environmental performance: Evidence from the academic literature. *Contemporary issues in sustainability accounting, assurance and reporting*, pp.11-42.

Clarkson, P.M., Yue, Li., Gordon, D., Richardson, Florin, P.V. 2008. Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. *Accounting, Organizations and Society*, 33(4-5): pp. 303–327.

Correia, M.S. 2019. Sustainability: an overview of the triple bottom line and sustainability implementation. *International Journal of Strategic Engineering (IJoSE)*, 2(1): pp.29-38.

Creswell, J.W. & Clark, V.L.P. 2017. *Designing and conducting mixed methods research*. London: Sage Publications.

Creswell, J.W. & Miller, D.L. 2000. Determining validity in qualitative inquiry. *Theory into Practice*, 39(3): pp. 124-131.

De Klerk, J. 2017. *Private equity and responsible investment in Namibia*. Doctoral Dissertation, University of Pretoria: Pretoria.

Deegan, C., 2014. An overview of legitimacy theory as applied within the social and environmental accounting literature. *Sustainability accounting and accountability*, pp.248-272.

Dhiman, S., 2008. Products, people, and planet: the triple bottom-line sustainability imperative. *Journal of global business issues*, 2(2), pp.51-57.

Di Maria, Eleonora; De Marchi, Valentina; Spraul, Katharina (2019). Who benefits from university industry collaboration for environmental sustainability?. *International Journal of Sustainability in Higher Education*, 20(6), 1022–1041.

Dias-Sardinha, D. & Reijnders, L. 2005. Evaluating environmental and social performance of large Portuguese companies: A balanced scorecard approach. *Business Strategy and the Environment*, 14: p. 73–91.

- Diebecker, J. and Sommer, F., 2017. The impact of corporate sustainability performance on information asymmetry: the role of institutional differences. *Review of Managerial Science*, 11(2), pp.471-517.
- Dingwerth, K., 2007. Disaggregating 'Democratic Legitimacy': A Framework. In *The New Transnationalism* (pp. 12-36). Palgrave Macmillan, London.
- Donaldson, T. and Preston, L.E., 1995. The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of management Review*, 20(1), pp.65-91.
- Dragomir, V.D. 2010. Environmentally sensitive disclosures and financial performance in a European setting", *Journal of Accounting & Organizational Change*, 6(3): pp. 359–388.
- Eccles, N.S. and Viviers, S., 2011. The origins and meanings of names describing investment practices that integrate a consideration of ESG issues in the academic literature. *Journal of business ethics*, 104(3), pp.389-402.
- Eccles, R.G., Ioannou, I. & Serafeim, G. 2014. The impact of corporate sustainability on organizational processes and performance. *Management Science*, 60(11): pp.2835-2857.
- Eccles, R.G., Newquist, S.C. and Schatz, R., 2007. Reputation and its risks. *Harvard Business Review*, 85(2), p.104.
- Epstein, M.J., Elkington, J. & Herman, B. 2018. *Making sustainability work: Best practices in managing and measuring corporate social, environmental and economic impacts*. London: Routledge.
- Evans, J.R. and Peiris, D., 2010. The relationship between environmental social governance factors and stock returns. *Available at SSRN 1725077*.
- Famiyeh, S., Opoku, R.A., Kwarteng, A. & Asante-Darko, D. 2021. Driving forces of sustainability in the mining industry: Evidence from a developing country. *Resources Policy*, 70, p.101910.
- Fan, P., Ouyang, Z., Basnou, C., Pino, J., Park, H. and Chen, J., 2017. Nature-based solutions for urban landscapes under post-industrialization and globalization: Barcelona versus Shanghai. *Environmental Research*, 156, pp.272-283.
- Figge, F., Hahn, T., Schaltegger, S. & Wagner, M. 2002. The sustainability balanced scorecard - linking sustainability management to business strategy. *Business Strategy and the Environment*, 11: pp. 269-284.

Fisher, B., Edwards, D.P., Larsen, T.H., Ansell, F.A., Hsu, W.W., Roberts, C.S. & Wilcove, D.S. 2011. Cost-effective conservation: calculating biodiversity and logging trade-offs in Southeast Asia. *Conservation Letters*. 4: pp.443–450.

Folqué, M., Escrig-Olmedo, E. & Corzo Santamaría, T. 2021. Sustainable development and financial system: Integrating ESG risks through sustainable investment strategies in a climate change context. *Sustainable Development*, 29(5): pp.876-890.

Fonseca, A. 2010. How credible are mining corporations' sustainability reports? A critical analysis of external assurance under the requirements of the international council on mining and metals. *Corporate Social Responsibility and Environmental Management*, 17(6): pp.355-370.

Fonseca, A., 2010. Requirements and barriers to strengthening sustainability reporting among mining corporations. <https://citeseerx.ist.psu.edu/document> [2022 October 3]

Friede, G., Busch, T. and Bassen, A., 2015. ESG and financial performance: aggregated evidence from more than 2000 empirical studies. *Journal of sustainable finance & investment*, 5(4), pp.210-233.

Galbreath, J., 2013. ESG in focus: The Australian evidence. *Journal of Business Ethics*, 118(3): pp.529-541.

Gasperini, A., Doni, F. & Pavone, P. 2012. The integrated report in the South African mining companies listed on the Johannesburg Stock Exchange (JSE): Analysis of non-financial information and impacts on external disclosure. In *Intervento presentato a: EIASM 8th Interdisciplinary workshop on Intangibles, Intellectual Capital & extra financial information*, Grenoble (France).

Gibbs, G.R., 2018. *Analyzing qualitative data* (Vol. 6). Sage Research Methods Online.

Gitman, L., Chorn, B. & Fargo, B. 2009. *ESG in the mainstream: The role for companies and investors in environmental, social and governance integration*. pp.1-35.

Global Reporting Initiatives, *GRI 308: Supplier Environmental Assessment 2016* sets out reporting requirements on the topic of supplier environmental assessment. PRI (2020). [Online] Available: <https://www.globalreporting.org/how-to-use-the-gri-standards/gri-standards-english-language/> [30 march 2022]

Goel, P., 2010. Triple Bottom Line Reporting: An Analytical Approach for Corporate Sustainability. *Journal of Finance, Accounting & Management*, 1(1).

Government of the Republic of Namibia. Communal Land Reform Act (5 of 2002). [Online] Available:

<https://www.lac.org.na/laws/annoSTAT/Communal%20Land%20Reform%20Act%205%20of%202002.pdf> [2022 July 30]

Government of the Republic of Namibia. Minerals (Prospecting and Mining) Act (33 of 1992). [Online] Available:

[https://www.lac.org.na/laws/annoSTAT/Minerals%20\(Prospecting%20and%20Mining\)%20Act%2033%20of%201992.pdf](https://www.lac.org.na/laws/annoSTAT/Minerals%20(Prospecting%20and%20Mining)%20Act%2033%20of%201992.pdf) [15 July 2022]

Government of the Republic of Namibia. Nature Conservation Amendment Act (5 of 1996). [Online] Available:

<https://www.npc.gov.na/wp-content/uploads/2022/06/Nature-Conservation-Amendment-Act-5-of-1996.pdf> [2022 July 15]

Government of the Republic of Namibia. Petroleum (Exploration and Production) Act 2 of 1991. [Online] Available:

[https://www.lac.org.na/laws/annoSTAT/Petroleum%20\(Exploration%20and%20Production\)%20Act%202%20of%201991.pdf](https://www.lac.org.na/laws/annoSTAT/Petroleum%20(Exploration%20and%20Production)%20Act%202%20of%201991.pdf) [2022 July 28]

Government of the Republic of Namibia. Revised National Policy on Human Wildlife Conflict Management. [Online] Available:

<https://www.npc.gov.na/wp-content/uploads/2022/06/National-Policy-On-Human-Wildlife-Conflict-Management-2009.pdf> [2022 July 25]

Government of the Republic of Namibia. The Forest Act (12 of 2001). [Online] Available:

<https://www.lac.org.na/laws/annoSTAT/Forest%20Act%2012%20of%202001.pdf> [2022 September 28]

Government of the Republic of Namibia. Tourism and Wildlife Concessions on State Land policy of 2007. [Online] Available:

<https://www.npc.gov.na/wp-content/uploads/2022/06/Policy-on-Tourism-and-Wildlife-Concessions-On-State-Land-2007-2.pdf> [2022 July 28]

Griffin, P.A., Lont, D.H. & Sun, Y. 2014. Supply chain sustainability: evidence on conflict minerals. *Pacific Accounting Review*, 26(1/2): pp.28-53.

Hahn, T., Preuss, L., Pinkse, J. and Figge, F., 2014. Cognitive frames in corporate sustainability: Managerial sensemaking with paradoxical and business case frames. *Academy of management review*, 39(4), pp.463-487.

Hattingh, J.P., 2001. *Conceptualizing ecological sustainability and ecologically sustainable development in ethical terms: Issues and challenges*. Stellenbosch: Stellenbosch University.

Heenetigala, K., Lokuwaduge, C.D.S., Armstrong, A. & Ediriweera, A. 2015. An investigation of environmental, social and governance measures of listed mining sector companies in Australia. *Journal of Law and Governance*, 10(4): 1-18.

Hobbs, J. & Schneller, M.I., 2012. Dividend signalling and sustainability. *Applied Financial Economics*, 22(17): pp.1395-1408.

Hodge, R.A., 2014. Mining company performance and community conflict: moving beyond a seeming paradox. *Journal of Cleaner Production*, 84, pp.27-33.

Hummel, K. & Schlick, C. 2016. The relationship between sustainability performance and sustainability disclosure – Reconciling voluntary disclosure theory and legitimacy theory. *Journal of Accounting and Public Policy*, 35(5): 455-476.

Hummels, H. & Timmer, D. 2004. Investors in need of social, ethical, and environmental information. *Journal of Business Ethics*, 52(1): pp.73-84.

Husselmann, S. 2016. *Environmental impact assessment in Namibia: The effectiveness of the system and its implementation in practice*. University of Cape Town: Cape Town. [Online] Available at: <https://open.uct.ac.za/handle/11427/22885> (Accessed 8 June 2021).

Initiative, G.R., 2012. Global reporting initiative. Online at: <https://www.globalreporting.org/Pages/default.aspx> [20 Dec 2012].

International Federation of Accounting. Investor Demand For Environmental, Social, and Governance Disclosures, 2012 [Online] Available: <https://www.ifac.org/system/files/publications/files/Investor-Demand-for-Environmental-Social-and-Governance-Disclosures-Implications-for-Professional-Accountants-in-Business.pdf> [2022 April 22]

Jemel-Fornetty, H., Louche, C. & Bourghelle, D. 2011. Changing the dominant convention: The role of emerging initiatives in mainstreaming ESG. In *Finance and sustainability: towards a new paradigm? A post-crisis agenda*. Emerald Group Publishing Limited. pp.85-117.

- Jenkins, H., 2004. Corporate social responsibility and the mining industry: conflicts and constructs. *Corporate social responsibility and environmental management*, 11(1), pp.23-34.
- Joaquín Cañón- de-Francia & Concepción Garcés-Ayerbe, 2009. ISO 14001 Environmental certification: A sign valued by the market? *Environmental & Resource Economics*, 4(2): pp. 245-262.
- Johnston, D. 2005. An investigation of regulatory and voluntary environmental capital expenditures. *Journal of Accounting and Public Policy*, 24: p. 175–206.
- Joppe, M. 2000. *The research process*. [Online] Available at: <http://www.ryerson.ca/~mjoppe/rp.htm> (Accessed 20 March 2022).
- Kearney, A.T., 2009. “Green” Winners.
- Kim, M. & Kim, Y. 2018. CSR and shareholder value in the restaurant industry: The roles of CSR communication through annual reports, 40: 120-129.
- Kokubu, H., Onishi, Y., Higashida, A. & Noda, A. 2002. *An analysis on the contents and determinant factors of Japanese companies' environmental reports*. Annual Report of Society of Environmental Economics and Policy Studies, 7, pp.83-95.
- Konar, S. & Cohen, M.A. 2001. Does the market value environmental performance? *Review of Economics and Statistics*, 83(2): pp.281–289.
- Latridis, G.E., 2013. Environmental disclosure quality: Evidence on environmental performance, corporate governance and value relevance. *Emerging Markets Review*, 14, pp.55-75.
- Laurence, D., 2011. Establishing a sustainable mining operation: an overview. *Journal of Cleaner Production*, 19(2-3), pp.278-284.
- Lee, K.H. and Schaltegger, S., 2018. Asia Pacific perspectives on accounting for sustainability: An introduction. In *Accounting for Sustainability: Asia Pacific Perspectives* (pp. 1-8). Springer, Cham.
- Lins, C. and Horwitz, E., 2007. Sustainability in the mining sector. *CEP*, 22610, p.180.
- Littlewood, D., 2015. Corporate social responsibility, mining and sustainable development in Namibia: Critical reflections through a relational lens. *Development Southern Africa*, 32(2), pp.240-257.

- Litvinenko, V., Bowbrik, I., Naumov, I. & Zaitseva, Z. 2022. Global guidelines and requirements for professional competencies of natural resource extraction engineers: Implications for ESG principles and sustainable development goals. *Journal of Cleaner Production*, 338: p.130530.
- Lokuwaduge, C.S.D.S. & Heenetigala, K. 2017. Integrating environmental, social and governance (ESG) disclosure for a sustainable development: An Australian study. *Business Strategy and the Environment*, 26(4): pp.438-450.
- Macpherson, C. 2019. *The potential impact of investor fossil fuel divestment behaviour on oil prices*. [Online] Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3382739 Available at SSRN 3382739. (Accessed 9 June 2022).
- Magagula, B., 2014. The environmental management system of the South African National Defence Force at the Grahamstown military installation. *Scientia Militaria: South African Journal of Military Studies*, 42(2), pp.143-163.
- Martirosyan, E. and Vashakmadze, T., 2013, August. Introducing stakeholder based frameworks for post-merger integration success. In *Global Business Conference Proceedings* (pp. 169-175).
- Matsumura, E.M., Prakash, R. & Vera-Muñoz, S. C. 2014. Firm-value effects of carbon emissions and carbon disclosures. *The Accounting Review*, 89(2): pp. 695–724.
- McKinley, A. 2008. *The drivers and performance of corporate environmental and social responsibility in the Canadian mining industry*. Toronto, ON, Canada: University of Toronto.
- Mebratu, D. 1998. Sustainability and sustainable development: Historical and conceptual review. *Environmental Impact Assessment Review*, 18: pp. 493-520.
- Ministry of Environment and Tourism (MET). 2007. Environmental Management Act no. 7 of 2007. Namibia
- Molina-Azorín, J.F., Tarí, J.J., Claver-Cortés, E. and López-Gamero, M.D., 2009. Quality management, environmental management and firm performance: a review of empirical studies and issues of integration. *International Journal of Management Reviews*, 11(2), pp.197-222.
- Monerva, J.M. & Cuellar, B. 2009. The value relevance of financial and non-financial environmental reporting. *Environmental and Resource Economics*, 44(3): 441–456.

- Moran, C.J., Lodhia, S., Kunz, N.C. and Huisingh, D., 2014. Sustainability in mining, minerals and energy: new processes, pathways and human interactions for a cautiously optimistic future. *Journal of Cleaner Production*, 84, pp.1-15.
- Morelli, J. 2011. Environmental sustainability: A definition for environmental professionals. *Journal of Environmental Sustainability*, 1(1): pp.2.
- Morrow, D. & Rondinelli, D. 2002. Adopting corporate environmental management systems: motivations and results of ISO 14001 and EMAS certification. *European Management Journal*, 20(2): pp. 159-171.
- Mubita, L. & Nambinga, V. 2021. The impact of mining sector to the Namibia economy, Windhoek: National Planning Commission.
- Murphy, D. and McGrath, D., 2013. ESG reporting—class actions, deterrence, and avoidance. *Sustainability Accounting, Management and Policy Journal*.
- Nadae, J.D., Carvalho, M.M. & Veira, D.R. 2019. Exploring the influence of environmental and social standards in integrated management systems on economic performance of firms. *Journal on Manufacturing Technology Management*.
- Namibia Chamber of Mines, 2017. Annual review, Windhoek: John Meinert Printing (Pty) Ltd.
- Namibia Chamber of Mines, 2018. Annual review, Windhoek: John Meinert Printing (Pty) Ltd.
- Namibia Chamber of Mines, 2019. Annual review, Windhoek: John Meinert Printing (Pty) Ltd.
- Namibia Chamber of Mines, 2020. Annual review, Windhoek: John Meinert Printing (Pty) Ltd.
- Namibia Chamber of Mines, 2021. Annual review, Windhoek: John Meinert Printing (Pty) Ltd.
- National Planning Commission Namibia. The Impact of Mining sector to the Namibia economy “Assessing socio-economic and environmental effects” 2021. [Online] Available: <https://www.npc.gov.na/wp-content/uploads/2022/02/The-Impact-of-Mining-sector-to-the-Namibia-economy-FINAL.pdf> [2022 May 21]
- Neuman, W.L. 2006. *Social research methods*. Sixth ed. New York: Pearson Education Limited.
- Nishitani, K. 2011. Empirical analysis of the effects on firms' economic performance of implementing environmental management systems. *Environmental and Resource Economics*, 48(4): pp. 569-586.

- Owen, C. 2007. Design thinking: Notes on its nature and use. *Design Research Quarterly*, 2(1): pp.16-27.
- Paredes-Gazquez, J.D., Benito, L.L. & de la Cuesta González, M. 2014. Drivers and barriers of environmental, social and governance information in investment decision-making: The Spanish case. *International Journal of Business and Management*, 9(9): p.16.
- Park, S.R. & Jang, J.Y. 2021. The impact of ESG management on investment decision: Institutional investors' perceptions of country-specific ESG criteria. *International Journal of Financial Studies*, 9(3): p.48.
- Parmar, B.L., Freeman, R.E., Harrison, J.S., Wicks, A.C., Purnell, L. & De Colle, S., 2010. Stakeholder theory: The state of the art. *Academy of Management Annals*, 4(1): pp.403-445.
- Pattern, D.M. & Guidry, R P. 2012. Voluntary disclosure theory and financial control variables: An assessment of recent environmental disclosure research. *Accounting Forum*, 36(2): pp.81-90.
- Pfeffer, J. 2010. Building sustainable organizations: Academy of Management Perspectives, Research Paper No 2017. Stanford Graduate School of Business.
- Pham, T.P.T., Cho, C.W. & Yun, Y.S. 2010. Environmental fate and toxicity of ionic liquids: a review. *Water Research*, 44(2): pp.352-372.
- Pope, J., Bond, A., Morrison-Saunders, A. & Retief, F. 2013. Advancing the theory and practice of impact assessment: Setting research agenda. *Environmental Impact Assessment Review*, 41: pp. 1-9.
- Porter, M. & Siggelkow, N. 2008. Contextuality within activity systems and sustainability of competitive advantage. *Academy of Management Perspectives*, 22(2): pp.34-56.
- Principle of Responsible Investment Annual Report 2020. [Online] available: <https://www.unpri.org/annual-report-2020/how-we-work/more/board-report> [2022 June 20]
- PWC. (2021). ESG reporting - an opportunity for companies to build greater trust with stakeholders. Retrieved from URL: <https://www.pwc.com.au/assurance/esg-reporting.html> [2022 September 15]
- Qiu, Y., Shaukat, A. & Tharyan, R. 2016. Environmental and social disclosures: Link with corporate financial performance. *The British Accounting Review*, 48: 102-116.

- Rahman, A.B.A. and Ibrahim, M.B., 2020. Effect of Corporate Governance and Capital Structure on Corporate Performance in Malaysian Listed Companies: A Conceptual Approach. *Sustainable Business and Society in Emerging Economies*, 2(1), pp.37-46.
- Rahman, S., 2003. Environmental impacts of modern agricultural technology diffusion in Bangladesh: an analysis of farmers' perceptions and their determinants. *Journal of environmental management*, 68(2), pp.183-191.
- ReconAfrica Namibia, Best practices: Environment, Social & Governance (ESG) 2021, Version 4. [Online] Available <http://www.reconafrika.com>[2022 July 28]
- Renneboog, L., Ter Horst, J. & Zhang, C. 2008. Socially responsible investments: Institutional aspects, performance, and investor behavior. *Journal of Banking & Finance*, 32(9): pp.1723-1742.
- Robinson, O.C., 2014. Sampling in interview-based qualitative research: A theoretical and practical guide. *Qualitative research in psychology*, 11(1), pp.25-41.
- Rogers, K. and Hudson, B., 2011. The triple bottom line. *OD practitioner*, 43(4), p.4.
- Romolini, A., Fissi, S. & Gori, E. 2014. Scoring CSR reporting in listed companies—Evidence from Italian best practices. *Corporate Social Responsibility and Environmental Management*, 21(2): pp.65-81.
- Said, R., Zainuddin, Y.H. & Haron, H. 2009. The relationship between corporate social responsibility disclosure and corporate governance characteristics in Malaysian public listed companies. *Social Responsibility Journal*. 5(2): pp.212-226.
- Sauvé, S., Bernard, S. & Sloan, P. 2016. Environmental sciences, sustainable development and circular economy: Alternative concepts for trans-disciplinary research. *Environmental Development*, 17: pp.48-56.
- Schaltegger, S. & Wagner, M. 2017. Managing and measuring the business case for sustainability: Capturing the relationship between sustainability performance, business competitiveness and economic performance. In *Managing the Business Case for Sustainability* (pp. 1-27). London: Routledge.
- Sievänen, R., Rita, H. & Scholtens, B. 2013. The drivers of responsible investment: The case of European pension funds. *Journal of Business Ethics*, 117(1): pp.137-151.

- Signitzer, B. & Prexl, A. 2007. Corporate sustainability communications: Aspects of theory and professionalization. *Journal of Public Relations Research*, 20(1): pp.1-19.
- Silva-Gao, L. 2012. The disclosure of environmental capital expenditures: Evidence from the electric utility sector in the USA, *Corporate Social Responsibility Management*, 19(4): pp. 240-252.
- Singh, M., Brueckner, M. and Padhy, P.K., 2015. Environmental management system ISO 14001: effective waste minimisation in small and medium enterprises in India. *Journal of Cleaner Production*, 102, pp.285-301.
- Singhania, M. & Saini, N. 2022. Systems approach to environment, social and governance (ESG): Case of reliance industries. *Sustainable Operations and Computers*, 3: pp.103-117.
- Sjöström, E. & Welford, R. 2009. Facilitators and impediments for socially responsible investment: a study of Hong Kong. *Corporate Social Responsibility and Environmental Management*, 16(5): pp.278-288.
- Slager, R., Gond, J.P. & Moon, J. 2012. Standardization as institutional work: The regulatory power of a responsible investment standard. *Organization Studies*, 33(5-6): pp.763-790.
- Spangenberg, J.H., 2005. Economic sustainability of the economy: concepts and indicators. *International journal of sustainable development*, 8(1-2), pp.47-64.
- Struwig, F.W. & Stead, G.B. 2007. *Planning, designing and reporting research*. 4th ed. Cape Town: Pearson.
- Sueyoshi, T. & Goto, M. 2009. Can environmental investment and expenditure enhance financial performance of US electric utility firms under the clean air act amendment of 1990? *Energy Policy*, 37(11): 4819-4826.
- The Republic of Namibia. 1990. *The Constitution of the Republic of Namibia*. Windhoek: Republic of Namibia.
- Thorne, L., Mahoney, L.S. and Manetti, G., 2014. Motivations for issuing standalone CSR reports: A survey of Canadian firms. *Accounting, Auditing & Accountability Journal*.
- Trochim, W.M. 2006. Qualitative measures. *Research measures knowledge base*, 361(1): pp.2-16.

United Nation Environmental Program Annual Report 2007. [Online] available: https://wedocs.unep.org/bitstream/handle/20.500.11822/37946/UNEP_AR2021.pdf [2022 May 16]

United Nation Environmental Program Annual Report 2021. [Online] available: https://wedocs.unep.org/bitstream/handle/20.500.11822/37946/UNEP_AR2021.pdf [2022 May 16]

Van Duuren, E., Plantinga, A. and Scholtens, B., 2016. ESG integration and the investment management process: Fundamental investing reinvented. *Journal of Business Ethics*, 138(3), pp.525-533.

Vintró, C., Fortuny, J., Sanmiquel, L., Freijo, M. and Edo, J., 2012. Is corporate social responsibility possible in the mining sector? Evidence from Catalan companies. *Resources Policy*, 37(1), pp.118-125.

Visser, W. & Tolhurst, N. eds. 2017. *The world guide to CSR: A country-by-country analysis of corporate sustainability and responsibility*. London: Routledge.

Vives, A. & Wadhwa, B., 2012. Sustainability indices in emerging markets: Impact on responsible practices and financial market development. *Journal of Sustainable Finance & Investment*, 2(3-4): pp.318-337.

Viviers, S. and Eccles, N.S., 2012. 35 years of socially responsible investing (SRI) research-general trends over time. *South African Journal of Business Management*, 43(4), pp.1-16.

Watkins, M., 2008. ISO 26000: the story so far. *IRCA INfrom e-zine*, 20.

Wendt, A., 2015. *Quantum mind and social science*. Cambridge University Press.

Xie, J., Nozawa, W., Yagi, M., Fujii, H. & Managi, S. 2019. Do environmental, social, and governance activities improve corporate financial performance? *Business Strategy and the Environment*, 28(2): pp.286-300.

Zikmund, W.G., Babin, B.J., Carr, J.C. & Griffin, M. 2013. *Business research methods*. Australia: Cengage Learning.

APPEDIX 1

CHECKLIST FOR DATA SET FOR ENVIRONMENTAL SOCIAL AND GOVERNANCE IN THE MINING INDUSTRY

1. ESG principle

OVERALL MINING SECTORS CONTRIBUTION

1.1 Industry Growth yearly (2017-2021)	
1.2 Mining Contribution to GDP (2017-2021)	
1.3 Gross Fixed Capital Formation (2017-2021)	
1.4 Corporate Tax Paid (2017-2021)	
1.5 Number of Permanent Employment 2017-2021)	
1.6 Corporate Social Responsibility (2017-2021)	
1.5 Research and Development Investment (2017-2021)	

2. ENVIRONMENTAL PERFORMANCE PER MINE

2.1 ESG strategy in Reported?		
2.2 Report on Environmental Monitoring Procedures?		
2.3 Report on the implementation of mitigation environmental impact?		
2.4 New Technology employed to mitigation environmental impact		
2.5 Which of the following environmental factors the mining company currently measuring? (Select all that apply.)		
1. Energy consumption and renewable energy solutions		2. Clean technology
3. Product recycling		4. Water use
5. Waste reduction and recycling		6. Electronic waste
7. Carbon footprint		8. Packaging material and waste
9. Responsible land use		10. Greenhouse gases
11. Environmental impact on racially and ethnically		12. Supply chain sustainability
13. Resource Efficiency and Pollution Prevention.		14. Green building practices

2.6 Does the company is have valid EIA, EMP and ECC in EMA

Y	N
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2.7 Does the Mining company monitor and report its carbon and/or other greenhouse gas (GHG) emissions?

Y	N
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1. SOCIAL PERFORMANCE

1.1 Which of the key Social factors your mining company considers important relating to Labour standards and workplace conditions? (Select all that apply.)		
1. Diversity and equal	<input type="checkbox"/>	3. Freedom of association and right to collective bargaining
2. employment opportunities	<input type="checkbox"/>	5. Forced Labour
4. Compensation and benefits	<input type="checkbox"/>	7. Child Labour
6. Health and safety	<input type="checkbox"/>	9. Employee satisfaction
8. Working hours	<input type="checkbox"/>	
1.2 Social factors of most concern with mining company?		
Safety rating conducted		<input type="checkbox"/>
Safety Reported		<input type="checkbox"/>
Labour & Industrial Relations		<input type="checkbox"/>
CSR		<input type="checkbox"/>
Safeguarding rights of indigenous people to their land/territory.		<input type="checkbox"/>
Contributing to the preservation of cultural heritage, e.g. making donations to preserve sacred places or archaeological sites.		<input type="checkbox"/>
Community engagement undertaken		<input type="checkbox"/>
Improving local or regional infrastructure		<input type="checkbox"/>

1.3 Indicate whether your mining company have the following in place:
1.4 Does the mining company have ESG strategy discussed at the Board level?
1.5 Does the mining company have Affirmative Action Plan reported
1.6 Does the mining company have the Risk management framework?
1.7 Does the mining company have an audit committee?
1.8 Does your mining company publish an annual or sustainability report on ESG?



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PROJECT EXEMPT FROM ETHICS CLEARANCE

21 September 2022

Project number: REC: SBE-2022-25723

Project title: Evaluating the implementation of Environmental, Social and Governance principle in the Mining Sector. A case study of Namibia.

Dear Miss GM Shilongo

Your application for exemption submitted on 15/09/2022 09:33 was reviewed by the Research Ethics Committee: Social, Behavioural and Education Research (REC: SBE).

You have confirmed in the proposal submitted for review that your project does not involve the participation of human participants, or the use of personal, identifiable information.

The project is, therefore, exempt from ethics review and clearance. You may commence with research as set out in the submission to the REC: SBE.

If the research deviates from the application submitted for REC clearance, especially if there is an intention to involve human participants and/or the collection of data not in the public domain, the researcher must notify the DESC/FESC and REC of these changes well before data collection commences. A new application would be required for such a deviation/amendment.

Please remember to use your **project number** (25723) on any documents or correspondence with the REC concerning your project.

Sincerely,

Mr A Williams

Office of the Research Ethics Committee: Social, Behavioural and Education Research (REC: SBE)

aden@sun.ac.za