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The reporting of the sustainability goals and the Sustainable Development Goals (SDGs) in the context of the private sector in South Africa

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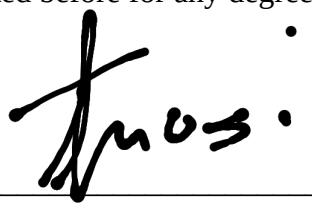
By

Tumelo Mosi

A Dissertation submitted to the Faculty of Science, University of the Witwatersrand, Johannesburg, in fulfilment of the requirements for the degree of Master of Science

Declaration

I declare that this Dissertation is my own, unaided work. It is being submitted for the Degree of Master of Science at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.



_____ (Signature of candidate) on this

_____07_____day of_____November_____2022_____in___Johannesburg___

Abstract

Sustainability challenges continue to mount and the fate of this planet lies in a precarious position. In response, the United Nations has introduced a global agreement known as the Sustainable Development Goals (SDGs). These are 17 goals underpinned by 169 targets for addressing social, economic and environmental issues on a global scale. The SDGs seek to do so by unlocking the potential that lies within the private sector and more. The aim of my research was to assess the sustainability goals disclosed by the top 25 Johannesburg Stock Exchange (JSE) listed companies against that of five other countries in 2017. Furthermore, I compared the environmental SDG disclosure of five companies from the metals and mining sector as well as the consumer products sector respectively, within the same period. The sample was selected from the original sample of the top 25 JSE listed companies. Comparisons were done by analysing sustainability/annual/integrated reports of the top 25 JSE listed companies. The results for the sample showed South Africa to be lagging behind the other countries with regards to disclosing sustainability goals in the corporate sustainability reporting for 2017. From 2017 to 2019, the number of reports addressing environmental SDGs from the selected sectors showed an increase. Furthermore, the study companies from the metal and mining sector performed better than those from the consumer products sector with regards to environmental SDG disclosure. However, the environmental SDG score of the study companies from the consumer products sector increased relatively more within the three years of assessment (2017-2019). Variation was also found between the study companies from the two sectors with regards to preference for specific environmental SDGs which included *Responsible Consumption and Production* (SDG 12), *Climate Action* (SDG 13), *Life Below Water* (SDG 14) and *Life on Land* (SDG 15). Moreover, the

interviews conducted with the relevant participants revealed that SDG awareness has improved overtime, however internalisation of the SDGs remains the biggest challenge.

Keywords: sustainability; United Nations; Sustainable Development Goals (SDGs); private sector; sustainability goals disclosure, environmental SDG disclosure, environmental SDG score

Dedicated to my father, Gideon Mosala Mosi

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CHAPTER ONE – INTRODUCTION

Sustainable development has been commonly defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Imperatives, 1987, pg.6). In spite of various stakeholders working globally to execute this plan of action, the needs of the present are far from being met while the ability of future generations to meet their own needs is a major concern. This is evident in the mounting global issues that include poverty, climate change and lack of economic opportunities which all form part of the long list of social, environmental and economic challenges (Brousselle & McDavid, 2020). To address the ongoing, dire threats manifesting progressively, several global agreements have been introduced by the United Nations (UN) including Agenda 21, the Millennium Declaration, the Kyoto Protocol, and the Paris Agreement (Anwar & El-Bassiouny, 2020).

One of the latest global agreements adopted by the United Nations is known as the 2030 Agenda for Sustainable Development of which the Sustainable Development Goals (SDGs) is a part of (Pedersen, 2018). The SDGs extend from the Millennium Development Goals (MDGs) which was introduced in the year 2000. The MDGs effectively invoked mobilisation towards global, social priorities expressed as a set of eight comprehensive goals. These goals addressed poverty, gender inequality, hunger, disease and environmental degradation (Sachs, 2012). However, the MDGs have been criticised for not addressing environmental degradation adequately (Fehling *et al*., 2013). The SDGs aimed to build on the lessons as well as the successes of the MDGs. They comprise 17 goals underpinned by 169 targets for facilitating economic growth, environmental protection as well as social well-being (Stafford-Smith *et al*., 2017). Unlike the MDGs, the SDGs recognise and aim to unlock the potential role of the private sector (Smith *et al*., 2017).

As an important actor, the private sector is presented with innumerable opportunities, particularly technology-driven businesses eager to present innovative sustainability solutions. By contributing towards achieving the SDGs, companies will be able to align their business strategies with the global sustainability priorities (Compass, 2015). Moreover, challenges confronting companies such as lack of qualified employees, limited natural resources, limited buying power from the local community and weak financial markets can be addressed by contributing towards the SDGs. The SDGs further reinforce corporate sustainability by providing economic incentives for efficient resource use or conversion to alternatives that are more sustainable (Coopers, 2016).

Governments globally require the involvement of the private sector to meet their national SDG targets (Compass, 2015). This is due to the fact that the private sector remains a critical player for advancing technology and economic growth in terms of Gross Domestic Product (GDP). The private sector is also a key source of employment. All these aspects are crucial in addressing socio-economic and environmental challenges. By committing to the SDGs, companies also stand to gain numerous benefits such as strengthened reputation and stakeholder relations, improved communication as well as collaborations. The potential role of the private sector as it pertains to the SDGs can be unlocked by formulating strategies as well as policies that will aid in achieving the SDGs on a national scale (Agarwal *et al*., 2017).

A study by PricewaterhouseCoopers (2015) revealed that 87% of companies in South Africa showed awareness of the SDGs. As the years progress, more research regarding the degree of SDG participation by the private sector in South Africa is critical. Little is known about the policies and strategic plans implemented as well as the challenges faced by South African companies. In order for sustainability issues to be tackled effectively on a national scale, companies must set sustainability goals which look to mitigate social, economic and environmental issues (Pillai *et al*.,

2017). The sustainability goals set by companies may include, but not limited to, 17 of the United Nations' SDGs.

We have yet to know how the sustainability goals disclosure of the private sector in South Africa compares to that of other countries. With South African companies operating within the context of a developing country, there is also a need to investigate the extent to which environmental SDGs are being addressed. This is due to the global trend of developing countries prioritising economic development at the cost of environmental protection unlike developed countries which give significant attention to environmental issues (Panayotou, 2016).

1.1 Aim, objectives, and research questions

The JSE is the 19th largest stock exchange in the world by market capitalisation and the largest stock exchange on the African continent. Hence, the aim of this study was to assess the reporting of sustainability goals by the top 25 Johannesburg Stock Exchange (JSE) listed companies. The objectives included conducting a comparative study of the sustainability goals disclosure between 25 South African companies and those of the United Arab Emirates (UAE), Thailand, Qatar, Malaysia and Australia to (1) determine whether there is variation in the reporting of sustainability goals; (2) determine the extent to which variation exists, should it exist; (3) assess the possible drivers for the existing variation.

The objectives also included comparing the environmental SDG disclosure of five South African companies from the consumer products and metal and mining sectors respectively, from 2017 to 2019. These sectors were selected due to their operational differences regarding their interactions with the natural environment. While the mining sector has direct impacts, the environmental

impacts of the consumer products are spread over a wide value chain. In that regard, perceptual materiality of the SDGs from the respective sectors may be investigated (Gutterman, 2020).

The research questions were as follows:

- How does the setting of sustainability goals in the sustainability reporting of South African companies compare with that of other countries?
    - What are the drivers of the observed variations should they exist?
- To what extent does variation exist between the metal and mining sector and the consumer products sector with regards to addressing environmental SDGs
    - What are the drivers of the observed variation should it exist?
- How has the interaction between the private sector in South Africa and the SDGs developed since the introduction of the SDGs in 2015?

1.2 Dissertation layout

This dissertation consists of five chapters. Chapter 1 includes the introduction together with the rational, aim and objectives. Chapter 2 contains the literature review which is followed by the methodology in chapter 3, results in chapter 4 and lastly, discussion and conclusion in chapter 5 followed by the reference list and appendices

CHAPTER TWO – LITERATURE REVIEW

2.1 The history of sustainable development

The concept of sustainable development stems from the adverse implications of the industrial revolution and a range of globalization challenges. During the 20th century, the economically driven industrial practices of Western countries resulted in social inequality and environmental degradation (Caradonna, 2014). Numerous environmental catastrophes are recorded in history, including the Minamata disaster in Japan (1950), Sandoz chemical spill in Switzerland (1986), and the Treasure spill in South Africa (2000) (Hernan, 2010). There are also the impacts of climate change, loss of biodiversity and air pollution that humanity faces presently (Brousselle & McDavid, 2020).

In 1968, an ecologist and philosopher by the name of Garret Hardin wrote a well-known essay titled "The Tragedy of the Commons". Harden argued that individuals motivated by their personal ambitions and interests run the risk of neglecting the interests of the collective, thus leading to the degradation of resources at some point from the cumulative overexploitation of those individuals. Hardin asserted that with the finite, planetary resources and indefinite human population growth, the planet's resources will most likely be exhausted due to continuous human overexploitation (Hardin, 1968). In the same year the Club of Rome, which constitutes like-minded economists, scientists, civil servants, business figures and world leaders globally, was founded in Rome at Accademia de Linel, on the shared mission of preserving the future of humanity on this planet. A few years later, they authorised a computer simulation which

predicted social and economic collapse towards the end of the 21st century should mankind fail to impose limits to economic growth (Krapivin, 2007).

In 1972, the first United Nations Conference on the Environment and Development took place in Stockholm. The link between human impacts, as it pertains to economic growth and environmental degradation, was discussed in the effort to establish common, global principles that would guide the world to environmental preservation (Hoelting, 1994). Sustainable development was presented as a viable solution to the growing and pressing global problems that stem from environmental degradation, addressed by the Brundtland Commission in the report *Our Common Future*, in 1987. There had been numerous concerns from experts, decades before the report, regarding the adverse impact of human beings on this planet including loss of biodiversity, habitat and natural resources (Grober, 2007). Finally, these concerns were addressed explicitly. It was during this time that the term "sustainable development" as "development that meets the needs of today without compromising future generations to meet their own needs" (Imperatives, 1987, pg.6) became popularised (Grober, 2007). This new paradigm was to be systematically implemented on a global scale. It was for this very purpose that the second United Nations Conference on Environment and Development was held in Rio de Janeiro, in 1992. Strategic plans were discussed that involved shifting to more sustainable practices in the efforts of achieving economic growth (Borowy, 2013). Some critics have likened this approach to "squaring a circle" due to the seemingly inherent conflict between economic growth and environmental sustainability (Robinson, 2004).

The year 1998, marked the inception of a campaign, later titled *the role of the United Nations in the 21st century,* that would last two years to strengthen the solidarity of civil society, governments as well as the international community at large in the resolve to not leave anyone

behind (Senit, 2020). Following that, the Millennium Summit was held in late 2000 at the headquarters of the United Nations in New York. The outcome included the Millennium Declaration from which the Millennium Development Goals (MDGs) were modeled (Ghai, 2011). The MDGs comprised 8 goals underpinned by 21 targets for addressing global issues, primarily social issues such as poverty and extreme hunger. Environmental sustainability was also included in the scope as Goal 7 (Ghai, 2011).

With the models for achieving sustainable development being reviewed and improved over time, the Sustainable Development Goals (SDGs), introduced in 2015 as part of Agenda 2023, are the latest approach to grappling with sustainability challenges. The United Nations The 2030 Agenda for Sustainable Development outlines a global plan of action for poverty eradication, environmental sustainability and the achievement of global peace by 2030. The SDGs center on 17 goals underpinned by 169 targets. What makes the SDGs more effective is that they are applied globally, unlike the MDGs which were only applicable to developing countries. While the MDGs' mission can be narrowed down to poverty eradication, the SDGs show a better understanding of the nature of sustainability challenges by adding and emphasising themes that include economic growth and environmental stewardship (Kumar *et al*., 2016). Hence, environmental SDGs, namely *Responsible Consumption and Production* (SDG12), *Climate Action* (SDG 13), *Life Below Water* (SDG 14) and *Life on Land* (SDG 15) (Appendix 1) along with their targets (Appendix 2) are included in the global agreement. The SDGs are global goals that each country is required to achieve. Furthermore, countries are required to report their progress towards achieving the SDGs to the global council. Unlike the MDGs, the SDGs includes a broader group of stakeholders such as academia, the private sector as well as the civil society (Kumar *et al*., 2016).

Through the process of the evolution of sustainable development as a concept and a practice, we have come to understand with certainty that unsustainable practices have severe consequences to all species, including humans (Hoekstra & Wiedmann, 2014). This understanding is captured in the standard definition of sustainable development which implicitly acknowledges the impact we have on future generations in that regard. Over time, sustainable development models evolved as our understanding of the interaction between the three domains of sustainability, namely the society, economy and the environment, expanded (Purvis *et al*., 2019).

2.2 Sustainable Development models

Over the years, three sustainable development models have been proposed in the efforts of finding a more apt depiction of the relationship between the economic, social and environmental spheres, namely the three-legged stool, Venn diagram as well as the nested model (Purvis *et al*., 2019) (Giddings *et al*., 2002) (Dawe & Ryan, 2003).

The earliest model of sustainable development is the three-legged stool which depicts the society, environment, and economy as the stool's legs. In this depiction, the three pillars are equal and separate domains (Figure 1). The conceptual idea is that, if one of the legs happens to be missing or shorter, the entire stool collapses, hence the need to balance the three pillars for sustainable development to be achieved (Dawe & Ryan, 2003).

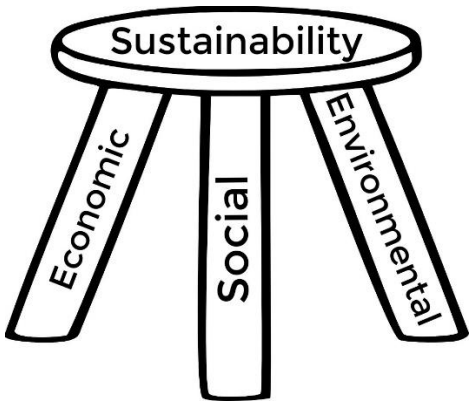


Figure 1: The three-legged stool model of sustainable development (Purvis *et al*., 2019, pg 68).

However, this model was found by Dawe and Ryan (2003) to be erroneous as it depicted the three spheres as independent and disconnected from one another. Furthermore, they argued that balance was not the main issue as humans cannot attain economic growth as well as social well-being in the absence of the natural environment (Dawe & Ryan, 2003). Subsequently, the Venn diagram was proposed which further added to the mainstream understanding of sustainable development by depicting it as the intersect between the social, economic, and environmental domains (Figure 2). Similar to the three-legged stool model, this model was criticised for depicting the three spheres as equal. This led to the recognition of the foundational role of the natural environment in achieving sustainable development (Dawe & Ryan, 2003).

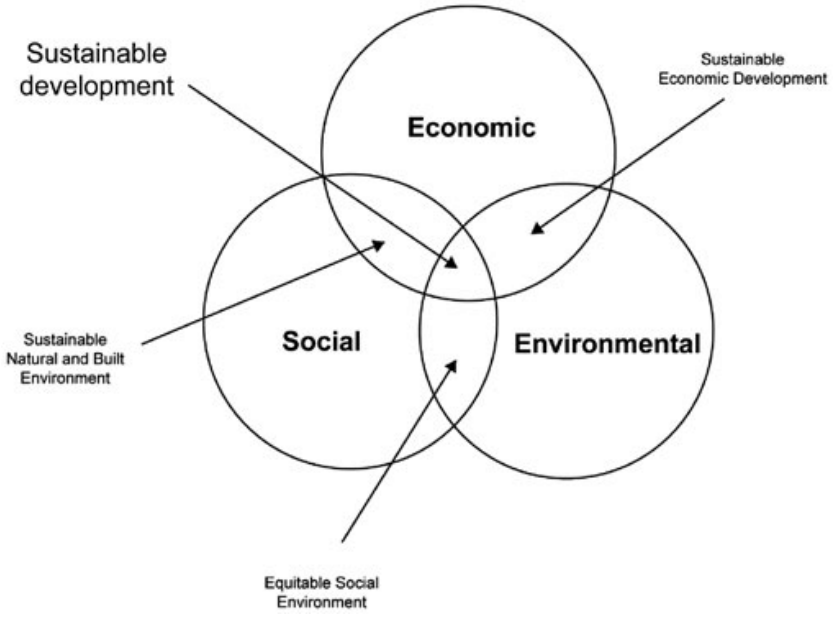


Figure 2: The Venn diagram model of sustainable development (Purvis *et al*., 2019, pg 68).

Finally, the nested model was proposed which shows a varying distribution of attention and weight with the economic sphere embedded within the social sphere which in turn is embedded within the environmental sphere (Figure 3). This design addressed the criticism of the previous models as inaccurately depicting the domains of sustainable development to be equal and separate.

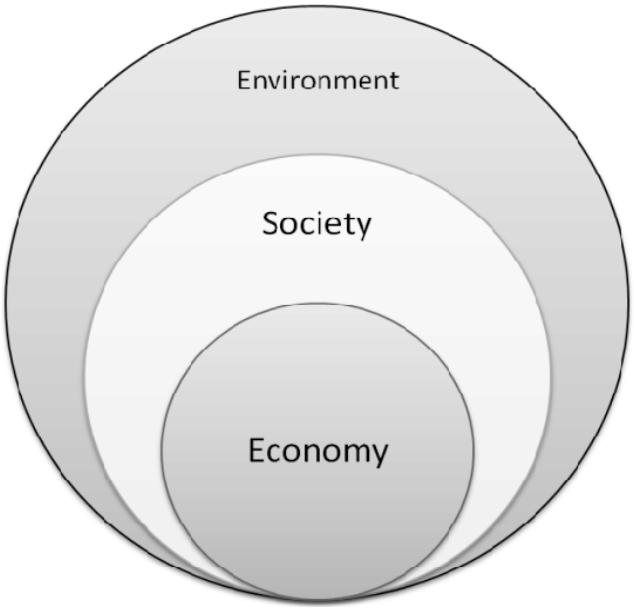


Figure 3: The nested model of sustainable development (Purvis *et al*., 2019, pg 68).

Despite the nested model appearing as being more dynamic, it still has its shortcomings. Some critics find that it excludes some significant elements of sustainable development such as the cultural and institutional domains (Giddings *et al*., 2002) However, this model currently informs much of the decision making and approaches to sustainable development (Ranjbari *et al*., 2021). The models of sustainability continue to evolve with innovative approaches such as sustainability and well-being currently gaining traction in sustainable development discourses. This particular scientific approach replaces economic income with happiness index as a plausible method of measuring societal progress. This approach recognises that social well-being and ecological sustainability are complementary. Furthermore, it opposes the conventional focus on economic growth as the primary driver for social well-being (Barrington-Leigh, 2016).

2.3 Environmental sustainability versus economic growth

The interplay between economic growth and environmental sustainability may fundamentally explain the environmental issues that have ensued and progressed over the years e.g. industrial carbon emissions contributing to the progression of climate change. Theoretically, the solution for mitigation and prevention of further environmental deterioration lies in reconciling environmental sustainability and economic growth (Panayotou, 2016). This involves challenging the status quo of prioritising profit in business and ultimately economic growth on a national scale (Dyllick & Hockerts, 2002). This has proven to be rather challenging, more so in developing countries, as prioritising economic growth is closely linked to advancements in addressing social issues such as unemployment and poverty (Panayotou, 2016). The unemployment rate in South Africa hit 30.8% in the 3rd quarter of 2020 and is projected to be 37.5% by 2025. Furthermore, statistics show that 49.2% of the population of individuals above the age of 18 fall under the upper-bound poverty line which is R1 268.00 each month per person (Mulaudzi & Ajoodha, 2020). From this perspective, prioritising economic growth over the environment may be a solution, but not a sustainable one, since the collapse of the environmental sphere ultimately leads to the collapse of the social and economic spheres (Panavotou, 2016).

While the concept of sustainable development looks to reconcile the three spheres, there is a school of critics that believe this to be unattainable. According to the critics, economic growth cannot be achieved without some degree of environmental damage (Robinson, 2004). The rebuttal to this argument is that limited growth that can adequately support the society while being environmentally sustainable is possible (Vujanović *et al*., 2020). With the use of clean technology, the passing of environmental laws and global agendas, there are strategies being implemented on a global scale that look to resolve these issues (Vujanović *et al*., 2020).

With the cumulative scientific data and understanding of sustainable development challenges coupled with decades of efforts, where do we find ourselves today? The severity of the destruction caused by humans has led to a new geological age coined by scientists as the Anthropocene (Lewis & Maslin, 2015) (Gibbard *et al*., 2022) (Perreault & Laforest-Lapointe, 2022). This geological age is characterised by unprecedented, adverse human impacts on the entire planet. We are currently experiencing the Sixth Mass Extinction, wherein the rates at which species are going extinct is 100 times higher than the normal, natural rate due to human impacts. Since the 1970s, population sizes of wild animals globally have halved while the population of humans has doubled. This catastrophic rate of species and biodiversity loss has only been experienced five other times in our planet's history (Crutzen, 2006) (Gibbard *et al*., 2022). By inflicting more ecosystem pressures, a threshold, pertaining to planetary boundaries, is being approached beyond which non-linear and abrupt environmental changes will ensue, thereby putting human life in great jeopardy (Rockström *et al*., 2009).

The level of carbon dioxide in the atmosphere is unsustainable due to the use of fossil fuels and the agricultural sector (Megura & Gunderson, 2022) (Jordan, 2022). Furthermore, human activities have disrupted chemical cycles, thereby converting rivers and seas into dead zones. The vice of climate change is progressively being felt with extreme weather events such as droughts, floods and hurricanes taking place more frequently, together with the rising sea levels (Koehler, 2015) (Cook, 2022). The latest report by Intergovernmental Panel on Climate Change report curated by 234 from across 66 countries warned that global warming will surpass 2 ℃ within the 21st century if greenhouse gas emissions are not significantly reduced promptly (Allen *et al*., 2021) In addition, the global population now stands at 7.9 billion and continues to grow (World Population Review, 2021). This translates to higher demands for natural resources, thereby further pushing the planet

beyond its capacity to sustain human life (Cropper & Griffiths, 1994). According to Steffen *et al.*, (2015), four of the nine defined planetary boundaries have been crossed due to human activities. These include altered biogeochemical cycles, loss of biosphere integrity, land-system change and climate change. Biosphere integrity and climate change constitute the core boundaries which may drive the earth system into an unprecedented state should they be significantly altered (Steffen *et al*., 2015). Overall, there is a great deal of urgency to come up with solutions to keep the human ship from capsizing.

2.4 The influence of South Africa's history on sustainable development

To understand where South Africa is today with regards to sustainable development, one must first understand the country's history. The pre-democratic South Africa was governed by the apartheid regime which neglected sustainability issues and based its economy largely on resource and energy intensive sectors such as agriculture and mining (Munslow & Fitzgerald, 1994). Little was done to regulate issues such as management of limited resources, land rehabilitation and pollution. Instead, economic growth was prioritised, much to the detriment of the environment. Fossil fuel-based sectors were exempt from appropriate accountability and regulations (Mohammed, 2018). All these things occurred, in part, due to the global context within which a pre-democratic South Africa existed as environmental negligence was the global trend. Consequently, a democratic South Africa relies on energy obtained from power stations fired by coal which is carbon-intensive. Today, South Africa has the highest emissions of greenhouse gases on the entire continent, with carbon dioxide per capita being nearly twice the global average (Mohamed, 2018) (Tenaw & Hawitibo, 2021).

The effects of environmental negligence had a significant impact on the social domain, further adding to the overwhelming social issues that already existed. People living in informal settlements experienced health problems due to residual toxins and mining dumps. Unfortunately, this continues to be the case in a democratic South Africa. The majority of people living in impoverished settlements happen to be black, which speaks to the racial and social inequality stemming from apartheid (Tshishonga, 2019).

Prior to 1994, the majority of the limited, natural resources were controlled by the white minority. The black majority, on the other hand, were confined to 13% of the land (Munslow & Fitzgerald, 1994). This translated to excess demand for the natural resources in overpopulated areas, thereby leading to environmental degradation. Furthermore, these areas were remote and had limited economic opportunities. There was also no electricity, thereby resulting in the burning of fossil fuels, further contributing to pollution and health problems (Munslow & Fitzgerald, 1994). Black settlements were denied basic services such as waste-removal services and sewerage systems thus causing littering, poor human health and environmental degradation. South Africa is still grappling with these problems. The history of this country exemplifies the interconnectedness of the three pillars depicted in the nested model (Munslow & Fitzgerald, 1994). It also validates the criticism of the model for excluding the institutional domain since the apartheid institution clearly played a considerable role in creating the sustainability issues that exist in the country today (Moir & Carter, 2012).

Since the dawn of democracy in 1994, there have been numerous attempts to redress social ills and to create an inclusive society while also addressing environmental and economic issues as they are all interconnected. Despite the attempts, these sustainability issues continue to percolate (Wirawan & Mclntyre, 2019). Social inequality is prevalent, models of urban development are

environmentally unsustainable so are the prevalent methods of consumption and production. Over the years, South Africa has recorded threatening biodiversity loss, water and air pollution (Wirawan & Mclntyre, 2019) (Kroukamp & Wepener, 2022) (von Staden *et al*., 2022).

Amongst the notable responses by the South African government, there is the National Framework for Sustainable Development (NSFD). Introduced in 2008, the NFSD aims to outline the national sustainable development vision and indicate strategies to align the country's development with sustainability practices. In addition, the framework details national sustainability trends and principles in order to execute measures through the partnership of civil society together with practices of co-operative governance (Chekwa *et al*., 2018). It is not clear where it is right now as NSSD2 was supposed to be introduced from 2015 (Chekwa *et al*., 2018) Like the SDGs, here we have a model that holds so much potential in effectively addressing sustainability issues and yet the results are not satisfactory as sustainability challenges are not being tackled effectively. Enforcement and putting the models into practice may be the reason (Seth, 2021). Until this is done, the sustainability challenges will not be eradicated nationally. Hence in the context of the SDGs, this study looks to measure engagement and implementation, particularly with one of the most anchoring stakeholders of the global agreement, which is the private sector. To an extent, assessing sustainability reporting allows us to do so (SDG Compass, 2015).

2.5 The Sustainable Development Goals (SDGs)

Prior to the SDGs, the United Nations introduced the Millennium Development Goals that were in effect from the year 2000 to 2015. The process from which the MDGs were developed arose from limited inclusion of potential stakeholders notably the private sector. Despite this, the MDGs were successful in many regards as they went on to become the most successful anti-

poverty global effort documented in history (Kumar *et al*., 2016), resulting in, among others, a significant reduction in child mortality rate due to malnutrition and disease and more girls being found in schools (Bresson, 2021).

The focus of the MDGs was predominantly social issues that plagued the developing world (Bresson, 2021). However, over time complex sustainability challenges materialised and it became evident that sustainable development, as an agenda, is equally relevant in developed countries as it is in developing countries and the private sector. With this insight and lessons from the MDGs, more stakeholders outside the UN and government took part in the developmental process, including citizens, academics, civil societies, scientists and private sectors globally. The SDGs may be broadly divided into categories of social goals which are an extension of the MDGs and the first seven SDGs, together with SDG 8,9 and 10 which cover economic topics such as infrastructure, jobs, industrialisation and distribution. The last seven SDGs cover urbanization and environmental issues, while the global partnership required for implementation of sustainable development is the last SDG (SDG Compass, 2015). However, it is important to recognise that the SDGs are interconnected by design, hence progress or lack thereof on one SDG may affect other SDGs. This interconnectedness is examplifed in a report by Griggs et al., (2017) which maps out the links between the targets underpinning the 17 SDGs. Hence, a more holistic approach regarding contribution towards the achievement of the SDGs is critical (van Zanten & van Tulder, 2021).

As already mentioned, the SDGs seek to carry the momentum and lessons from the MDGs. Unlike the MDGs which were curated by a select group of experts, the SDGs included thematic consultations, 70 Open Working Groups, country consultations, Civil Society Organisations (CSOs), general public participation through surveys, meetings as well as online mechanisms.



Figure 4: The United Nations 17 Sustainable Development Goals SDGs (Hilltop, 2020)

2.6 Sustainability reporting

Sustainability reporting has grown over the years, although it is a relatively new practice. Initially, companies reported mostly on economic or financial information, this changed over time as reporting on social and environmental impacts became mandatory as well. Tools and guidelines such as the Global Reporting Initiative, the United Nations Global Compact, Dow Jones Sustainability Indices and The King Code on Corporate Governance (currently King IV) have been established to promote sustainability reporting (Chekwa *et al*., 2018) (Natesan, 2020). Furthermore, Environmental, Social and Governance (ESG) reporting has been established for the purpose of promoting sustainable business practices (Natesan, 2020).

The most widely used sustainability reporting framework is the Global Reporting Initiative (GRI) guidelines. The GRI is a non-profit organisation that seeks to promote corporate sustainability by disseminating reporting guidelines for organisations to report on their social, environmental and economic impacts (Calabrese, *et al*., 2021). Since 2000, The GRI has produced four versions of reporting guidelines so as to set the standard for reporting and disclosure in conjunction with developing indicators for environmental, social and economic performance. In addition, technical and indicator protocols provide information regarding materiality and quality of disclosure. In 2018, there were more than 9000 companies registered with the GRI and over 33 000 reports in their database (Chekwa *et al*., 2018). The GRI fundamentally provides an effective framework for companies to practice sustainability reporting wherein social, environmental and economic initiatives of the companies are disclosed together with sustainability goals amongst others (Chekwa *et al*., 2018) (Pillai *et al*., 2017). Currently in the age of the United Nations' SDGs, the same objectives are reinforced through SDG reporting wherein companies disclose strategies that seek to address the SDGs. By reporting on the SDGs, companies are able to effectively report on their social, environmental and economic initiatives which constitute the framework of the SDGs and the GRI. This was explored within the two parts of this study respectively, with the first part looking at the sustainability reporting of the top 25 JSE listed companies while the second part assessed the environmental aspect of SDG disclosure of 5 of the 25 JSE listed companies from the metals and mining sector as well as the consumer products sector.

A recent document called *Linking the SDGs and the GRI Standards,* which was last updated in March, 2020 by the GRI in association with the United Nations, covers all 17 of the SDGs and maps them against the reporting standards of the GRI. This enables companies to apply the GRI

standards in order to gauge their contributions towards achieving the SDGs. In addition, initiatives and tools have been developed by the GRI to promote effective private sector participation in achieving the SDGs such as *The Business reporting of the SDGs resources*. Furthermore, a partnership between a multinational, energy utility company called Enel and the GRI has yielded a project that includes online collaboration forums to find ways to explore how SDG contribution can be increased within the private sectors (Chekwa *et al*., 2018).

2.7 The SDGs and the private sector

The participation of business in reaching the SDG targets is pivotal, since it plays a critical role in employment and economic growth. In addition, the private sector is a source of innovation, finance and technology (Ghosh & Rajan, 2019). Therefore, companies are called to use their creativity and innovation to provide solutions for sustainable development challenges. Furthermore, companies are required to monitor their actions by reducing their adverse impacts while enhancing their positive contributions to the agenda (SDG Compass, 2015). Companies may also reap benefits such as lucrative business opportunities, enhanced public image as well as stable markets and societies (SDG Compass, 2015).

In addition to the GRI guidelines, there are other tools and guidelines in place to assist companies in addressing the SDGs effectively (Grainger-Brown, 2019). One of them is the *SDG Sector Matrix* which was included in the United Nations Global Compact Partnership with international consultancy KPMG which is a multi-national services network and accounting firm (Axon & James, 2018). The matrices for this particular tool depict the overlap between the SDGs and business. They are aggregated around sectors that include infrastructure, natural resources and chemicals, energy, beverage and consumer goods, food, healthcare and life sciences,

industrial manufacturing, financial services and transportation. For each matrix, a roundtable discussion is held to discuss issues with sector experts and associations so as to review the content of the publication and agree on opportunities that provide shared value and identify fitting examples for publication (Axon & James, 2018).

The U.S Council for International Business developed an initiative called *Business for 2030*. This is an interactive, visually-driven site for private sector actors to be provided with useful information on how progressive companies are effectively addressing the SDGs. This tool employs the same approach as the *SDG Sector matrix* wherein case study examples of other companies are used (Mendoza, 2015). The tool employs an approach divided into three parts wherein firstly, the SDGs and the business case for addressing them are comprehensively explained. Secondly, examples of businesses tackling the 17 goals on the level of the 169 indicators are provided. Finally, an open-source invitation is sent to all companies to showcase their SDG contributions on the website (Mendoza, 2015).

The International Chamber of Commerce also developed a project, namely *Business Charter for Sustainable Development*, that provides a practical resource unlike the aforementioned tools that are more geared towards case study examples. This tool is useful as a starting point for small-to-medium size businesses and companies in emerging markets. Its functional structure identifies eight principles for sustainable development in conjunction with the underlying indicators that are interlinked. The charter suggests sector-specific recommendations and collaborative efforts for achieving the eight principles. More importantly, these courses of actions are linked to particular SDGs, thereby providing a guide for the private sector to tactically approach the SDGs (International Chamber of Commerce, 2015).

Finally, there is the *SDG compass* which guides companies on ways in which they can align their strategies with the SDGs while managing and measuring their contribution to the achievement of the SDGs (SDG Compass, 2015). This guide was developed from a collaboration between the World Business Council for Sustainable Development, the GRI and the United Nations Global Impact (Grainger-Brown, 2019). The guide consists of five steps for maximising SDG contributions "understanding the SDGs, defining priorities, setting goals and targets, integrating sustainability into the core business strategy, and reporting and effectively communicating SDG activities" (SDG Compass, 2015, pg 5). The SDG Compass guides companies through a process of self-assessment predicated on evaluative questions as well as processes and systems in place. This guide is useful for large multi-national companies. However, small and medium size businesses are encouraged to make use of it and adapt it as needed (Garcia-Sanchez *et al*., 2020).

For sustainability issues to be eradicated, a robust foundation is required. In that regard, the foundational role of the natural environment as illustrated by the nested model (Figure 3) must be given considerable attention. That is to say, by addressing environmental issues, the social and economic domains are implicitly addressed as well. Hence, environmental SDGs, namely *Responsible Consumption and Production* (SDG12), *Climate Action* (SDG 13), *Life Below Water* (SDG 14) and *Life on Land* (SDG 15) (Appendix 1) along with their targets (Appendix 2) are included in the global agreement. While some SDGs such *Clean Water and Sanitation* SDG 6) have targets that address environmental SDGs, the aforementioned SDGs primarily focus on environmental issues. To assess the environmental SDG disclosure of South African companies from 2017 to 2019, I employed a scoring system adapted from *SDG Compass 2015* as this tool provides a guide for companies by defining clear criteria for holistic SDG disclosure.

To assess how companies are performing with regards to SDG coverage globally and what challenges they face, a global survey was conducted in July 2018 by the World Business Council for Sustainable Development to evaluate trends in how companies are adopting the Sustainable Development Goals globally. The participants included 250 companies from 43 countries across four continents. It was found that 78% of companies had taken steps to prioritise certain SDGs (WBCSD & DNV.GL, 2018). Companies were, however, engaging with the SDGs on a broad level of the actual goals instead of the underpinned targets of those goals. For example, a company would form strategies to address SDG 13: *Climate Action* without addressing the underpinning targets such as target 13.1 which encourages "strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries" (Appendix 2). Another key finding was that the integration of this agenda was limited to the CEO's office, sustainability and communication departments. The barrier for integration included lack of understanding of the relevance of this agenda to companies, despite the information and literature highlighting its economic relevance. Furthermore, companies still needed clarity with regards to the policy and regulations of this agenda. Over the following three years, companies aimed to improve their reporting as well as develop key performance indicators (KPIs) and corporate goals that align with the agenda (WBCSD & DNV.GL, 2018).

PricewaterhouseCoopers (2017) looked to assess the extent to which companies engage with the SDGs by evaluating their reporting. The study showed that 62% of businesses mentioned this agenda in their reports. It further highlighted that 37% of companies prioritised certain SDGs, particularly the ones that are most relevant to their organisations. The report also stated that 28% of companies had set targets relevant to social SDGs for one or more key performance indicators (KPIs) (PwC, 2017).

Pillai *et al*. (2017) conducted research which looked to critically analyse the extent to which companies from five different countries integrated the SDGs into their business strategies by assessing sustainability, financial, annual and Corporate Social Responsibility (CSR) reports. The paper concluded that there is lack of strategy and planning in the private sector with regards to integrating sustainability into the operations of the companies (Pillai *et al*., 2017). Furthermore, the authors concluded that there is a myopic view of sustainability as companies look to only meet basic requirements stipulated by the government (Pillai *et al*. 2017). The first part of my research is an extension of this paper wherein I compared the corporate sustainability goals disclosure of 25 South African companies against that of the five countries in the Pillai *et al*. (2017) study including Australia, Malaysia, Qatar, Thailand and United Arab Emirates.

Private sectors across different countries globally operate within different contexts and therefore face different sustainability challenges. However, despite the varying contexts within which these private sectors function, there are common sustainability challenges such as climate change, poverty and environmental degradation (Coopers, 2016). The SDGs aim to combat these challenges which paradoxically presents challenges on its own. The common challenge facing private sectors globally is the integration of the SDGs into the business strategies (WBCSD & DNV.GL, 2018). Haywood & Boihang (2021) conducted a study to evaluate the SDG disclosure of the top 100 JSE listed companies during the earlier years of the 2030 Agenda. What they found was that 6% and 11% of the companies in the financial year 2016/2017 and 2017/2018 respectively incorporated the SDGs in their annual reports. While the authors noted an increase between the years, only 2% of companies disclosed their SDG strategies specifically in the integrated annual reports in 2017 (Haywood & Boihang, 2021). In 2019, I assessed the extent of SDG disclosure by

companies in South Africa and found the integration of the SDGs to be poorly done by the study companies from the mining, agricultural and forestry, and retail sectors (Mosi, 2019).

To assess how the SDGs are integrated into companies, corporate sustainability reporting may be evaluated. This, in conjunction with interviews with key role players, may perhaps be amongst the first steps to unlocking the potential within the private sector as this will allow for diagnosis and recommendations for sectorial challenges. Furthermore, by employing these investigative methods and other tools in place such as the *SDG Compass*, companies can make meaningful contributions which may increase the likelihood of the SDGs being achieved on a national level.

CHAPTER THREE – METHODOLOGY

In this study I aimed to assess the reporting of sustainability goals and environmental SDGs by South African companies. The study consisted of two parts - the first part compared the reporting of sustainability goals of the top 25 JSE listed South African companies with that of five other countries as presented in a paper by Pillai *et al*. (2017) in 2017. The second part assessed the extent of environmental SDG disclosure by South African companies from 2017 to 2019 to identify the trends of the study companies within the previous three financial years during the collection of data in early 2020. Furthermore, comparisons regarding environmental SDG disclosure were made between five study companies from the consumer products sector and the metals and mining sector respectively, within the same period. In addition, I evaluated trends from the study companies with regards to addressing specific environmental SDGs given the small sample size per sector. References made to the countries and sectors of the study companies are only done in relation to the study companies for the purpose of drawing comparisons. Sustainability goals are any goals detailed by companies that address social, economic and environmental challenges. These may or may not be presented using the framework of the SDGs in the reports assessed.

3.1 Research design

This research followed a mixed-methods research design (Greene, Caracelli, & Graham, 1989) for data collection, analysis, and interpretation, which allows the investigator to collect data and analyse different but complementary data sets, integrate the findings, and draw conclusions, using both qualitative and quantitative approaches (Creswell & Garret, 2008). Integrating the two research methods yields a better understanding of the research topic as the strengths of one

compensate for the limitations of the other (Gläser-Zikuda *et al*., 2020). The quantitative approach involved an analysis of company reports for which thematic analysis was employed wherein the presence of texts and images related to the coding system designed by Pillai *et al*., (2017) was quantified in each of the reports. Subsequently, the data were presented as percentages of the reports for each code. The qualitative aspect of the study involved semi-structured interviews and conversations and data were analysed using semantic analysis to evaluate both similar and different opinions as per number of interviewees. Several research instruments were used to achieve the research objectives, including a review of the literature, company assessments, and interviews. The study companies were identified by their respective countries and sectors for convenience regarding presentation and discussion of my findings. My findings do not expand to the actual countries and sectors.

3.2 Corporate reporting of sustainability goals: South Africa versus five other countries

The first part of my research included a comparative study between South Africa and five other countries to compare the corporate sustainability in 2017, specifically focusing on sustainability goal setting. The year was selected to accurately replicate the study by Pillai *et al*., (2017) and to investigate how South African companies reported on sustainability goals in comparison with the other five countries. South African companies were compared against those of Australia, Malaysia, Qatar, Thailand and United Arab Emirates. The methodology and the data for comparison were derived from Pillai *et al*. (2017).

The data for the five countries were accessed from the paper published by Pillai *et al.* (2017). These data were presented in the paper as percentages of reports meeting the criteria of corporate sustainability reporting for each country as per Table 1. The methodology was replicated to

generate data for the study companies from South Africa. This involved a sample selection of the top 25 JSE listed companies for the year 2017. The reports of the selected companies were downloaded from their websites with preference given to sustainability reports, integrated reports and annual reports, in that order due to factors including availability of reports and the type of reports that predominantly provided sustainability disclosure. Data collected during report analysis were pooled to gain an overall understanding of how the companies disclosed their sustainability goals without any evaluations of the different report types. Subsequently, report assessments were conducted based on the criteria adapted from the coding system used by Pillai *et al*. (2017), presented in Table 1. The reports were assessed based on a binary system (presence/absence) that determined whether or not each criterion of sustainability goals disclosure was met. These were predicated on investigative questions found on the second column next to each criterion of sustainability goals disclosure (Table 1).

Table 1: The criteria for assessing the reports in the country based comparative study (as per Pillai *et al*. 2017).

Criteria	**Definition**
Sustainability (yes/no)	Does the report include information regarding any sustainability activities?
Sustainability Goals stated (yes/no)	Are there any sustainability goals stated?
Timeframes included (yes/no)	Do the sustainability goals have milestones?
Measurable (quantitative parameters) (yes/no)	Are there quantitative indicators to measure progress?
Type of SD initiative Environmental (yes/no)	Are any environmental initiatives being prioritised?
Type of SD initiative Social(yes/ no)	Are any social initiatives being prioritised?
Type of SD initiative Economic (yes/no)	Are any economic initiatives being prioritised?

Criteria	Definition
Guidelines followed (yes/no)	Are the reporting guidelines from the Global Reporting Initiative (GRI) being followed in general?
Objectives measured (yes/no)	Are the sustainability objectives measured against results to see if the priorities are being accomplished?

3.3 The environmental SDG disclosure by South African companies

A sample of five companies from the metals and mining and five from the consumer products sectors was randomly selected from the original sample of 25 using stratified sampling. The limited number of companies chosen for each sector was limited due to the initial sample of 25 JSE-listed companies. To assess the environmental SDG disclosure of South African companies from 2017 to 2019, a qualitative content analysis was used. Here the researcher seeks to find objective 'truths' by looking through qualitative data, focusing on finding similarities and differences on a particular subject (Graneheim et al., 2017). Content analysis of the chosen company reports was done by looking for statements that contained information on SDGs in general (using keywords such as "Sustainable Development Goals" and "SDG", as well as "prioritise", "target", "goal". Text linked to these keywords was read in detail for better context. I proceeded to employ a scoring system adapted from *SDG Compass 2015* as this tool provides a guide for companies by defining clear criteria for holistic SDG disclosure (Table 2). In addition, it is the only comprehensive guideline published by the United Nations. Firstly, the average environmental SDG scores of each sector, along with the average scores for each criterion of environmental SDG disclosure, were determined for comparisons to be made between the selected sectors over the three-year period. Finally, I compared the percentage of reports from the five companies from each sector addressing environmental SDGs i.e., *Responsible*

Consumption & Production (SDG 12), *Climate Change* (SDG 13), *Life below Water* (SDG 14) and *Life on Land* (SDG 15).

3.4 Interviews

To uncover how the private sector is contributing towards the SDGs, interviews were conducted with four sustainability managers, one sustainability consultant from the mining sector and another one from the retail sector (6 interviewees) in 2021." The aim was to provide clarity on the current and previous states of SDG disclosure. The open-ended questions allowed the interviewees to provide insight regarding awareness of the SDGs as well as SDG disclosure, sectoral trends, challenges, attitudes towards the SDGs and strategic approaches within the private sector (see Appendix 3 for interview questions). Finally, I evaluated the responses and gave a detailed overview of the key points that were made by the interviewees. Before conducting the interviews, I applied for human (non-medical) ethics clearance (clearance no: H20/11/44) from the University of Witwatersrand.

Table 2: Scorecard used to assess the criteria of environmental SDG coverage (adapted from SDG Compass, 2015).

Score	Understanding of the SDGs	Defining priorities	Goals & targets	Integration of SDGs	Reporting & communication
0	Failure to mention or acknowledge the SDGs	Failure to define priorities	Failure to set goals and targets	No incorporation of the SDGs in any section of the report	No reporting or communication
1	Poor definition of the SDGs with minimal mention of the elements that constitute the agenda	Poorly defined and unclear	Poorly defined and unclear	The SDGs included in less than half of the sections in the report	Poor reporting and communication
2	Fair definition of the SDGs with key elements being highlighted	Fairly defined	Fairly defined	The SDGs incorporated in half of the sections in the report	Fair reporting and communication
3	Definition of the SDGs is detailed and encompassing of all the elements of the agenda as well as the responsibility on behalf of the private sector	Comprehensive plan of action detailing all the priorities	Goals and targets clearly outlined and articulated	The SDGs incorporated in most of the sections in the report	Progress, strategies, achievements and challenges are reported and communicated effectively
4	In depth understanding, reflective of rigorous research where the nature of the agenda is clearly captured in the definition	Priorities well researched and justified within the context of the sectorial responsibilities as well as the value chain of the company	Goals and targets clearly defined including milestones and strategic plans for achieving those goals and targets	The SDGs incorporated in all of the sections in the report	Excellent reporting and communication. Substantial depiction of transparency. Progress, strategies, achievements and challenges are reported effectively

3.5 Data analysis

A chi-squared test was used for the country-based comparative study to determine whether there is a significant difference in the percentage of reports incorporating each of the criterion of sustainability reporting between companies from South Africa and the UAE, Qatar, Australia, Thailand and Malaysia. Furthermore, the Kruskal-Wallis post hoc test was used to reveal where the differences lie. A t-test as well as the Wilcoxon signed-rank test were used to determine whether there was a significant difference in the mean environmental SDG scores between the two sectors for 2017, 2018 and 2019, depending on whether or not the data are normally distributed and have equal variance. For data that met these criteria, a t-test (t) was used, conversely the Wilcoxon signed-rank test (W) was used for data that failed to meet the aforementioned criteria. The same was done for comparing the mean environmental SDG scores for the different aspects of environmental SDG disclosure between the selected sectors. Finally, a proportionality test was employed to determine whether there is a significant difference in the proportion of reports addressing SDG 12, 13, 14 and 15 respectively between the consumer products sector and the metals and mining sector in South Africa. The proportions were then converted into percentages for the graph presentations.

CHAPTER FOUR – RESULTS

This study set out to firstly compare the reporting of sustainability goals of 25 South African companies against those from five other countries presented in a paper by Pillai *et al*. (2019). Secondly, I compared the environmental SDG disclosure of five South African companies from the metals and mining and the consumer products sectors respectively. While there was considerable variation regarding the different aspects of sustainability goals disclosure, the study companies from South Africa were found to be amongst the worst performing companies overall with regards to reporting on sustainability goals based on the assessment of reports from 2017. With regards to environmental SDG scores, the results showed a steady increase from 2017 to 2019 for South African companies from the selected sectors, with the increase observed more in the consumer products sector. As for comparing environmental SDG disclosure in the same period, the study companies from the metals and mining sector performed better than those from the consumer products sector with variation also existing with regards to preference for specific environmental SDGs.

4.1 Corporate reporting of sustainability goals: South Africa versus five countries

Amongst the four aspects of reporting on sustainability goals (sustainability addressed in the reports, sustainability goals stated, timeframe set and indicators identified), South African companies had more reports incorporating sustainability than four of its five counterparts, however the difference was significant for two of the four countries (Figure 5; χ^2=173.18, df=15, $p<0.001$). With regards to stating the sustainability goals, South Africa had a significantly lower percentage of the reports than four of its counterparts, whereas for setting timeframes, it was lower than three other countries with the difference being significant for only one of the three

countries (Figure 5; χ^2=173.18, df=15, p<0.001). Finally, four other countries had more reports incorporating sustainability goal indicators than South Africa with the difference being significant for three of the four countries (Figure 5; χ^2=173.18, df=15, p<0.001)

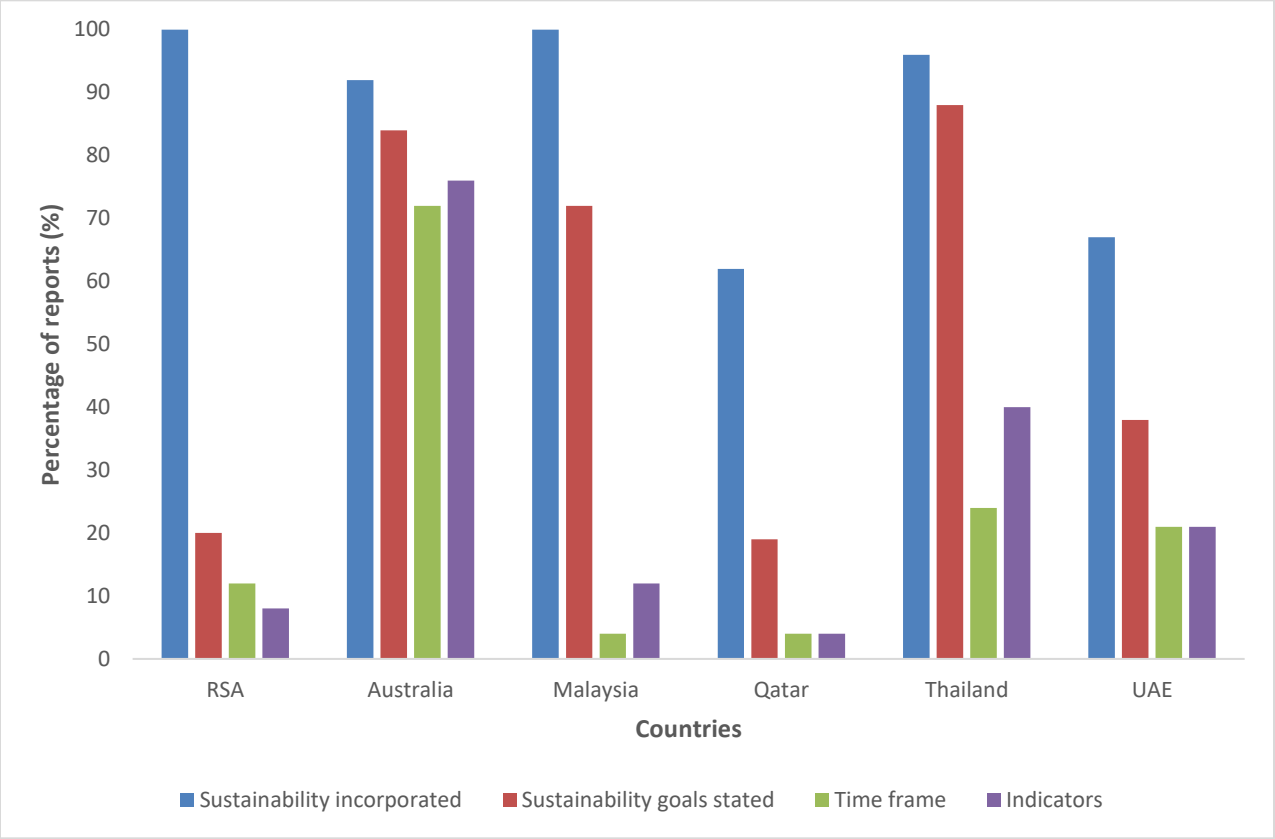


Figure 5: The percentage (%) of reports from each country addressing the four aspects of sustainability reporting.

With regards to the types of sustainable development initiatives (social, environmental and economic), the percentage of reports from South African companies was lower for all three. The difference was significant for all five countries for environmental initiatives, four countries for social initiatives and lastly, three countries for economic initiatives (Figure 6; χ^2=21.674, df=10,

p=0.017). What is also noteworthy is that, of all the three sustainable development intiatives, environmental initatives were mentioned marginally more in three of the five other countries, whereas with South Africa, it was the social initiatives. However, the difference was marginal (Figure 6). On the other hand, GRI guidelines were being followed in more of the reports from South African companies than from any of the other countries (Figure 7, χ^2=125.49, df=5, p<0.001), yet measuring objectives against results was included in fewer reports from South African companies, with the exception of Qatar while the percentage for UAE was not significantly higher (Figure 8, χ^2=107.59, df=5, p<0.001).

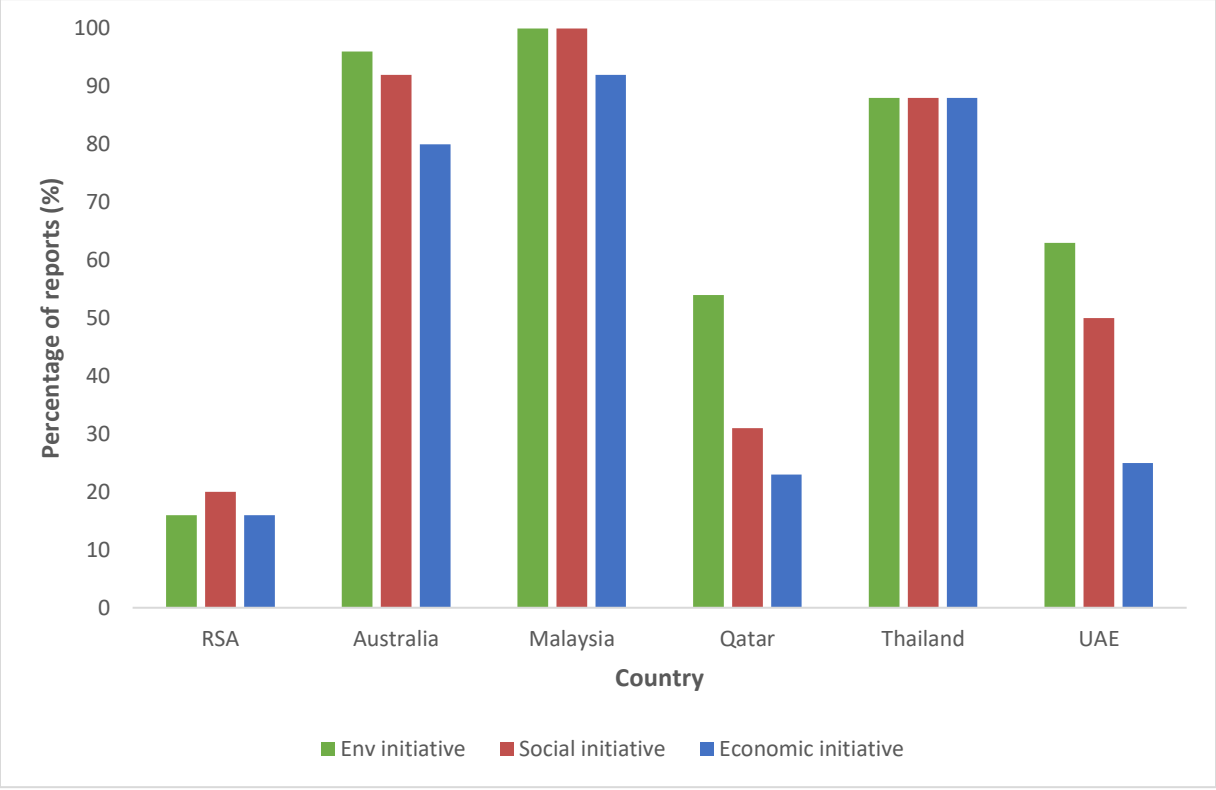


Figure 6: The percentage (%) of reports from each country addressing the three types of sustainable development initiatives.

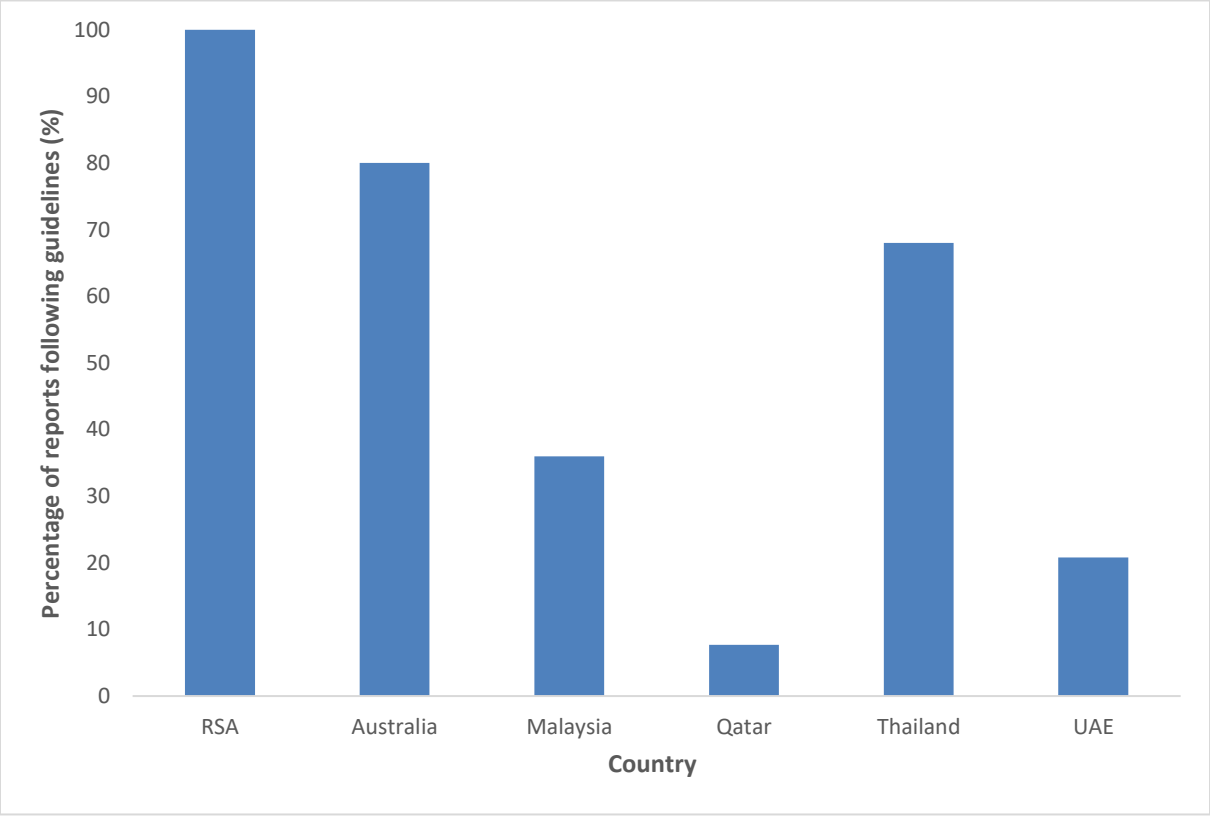


Figure 7: The percentage (%) of reports from each country following the GRI reporting guidelines.

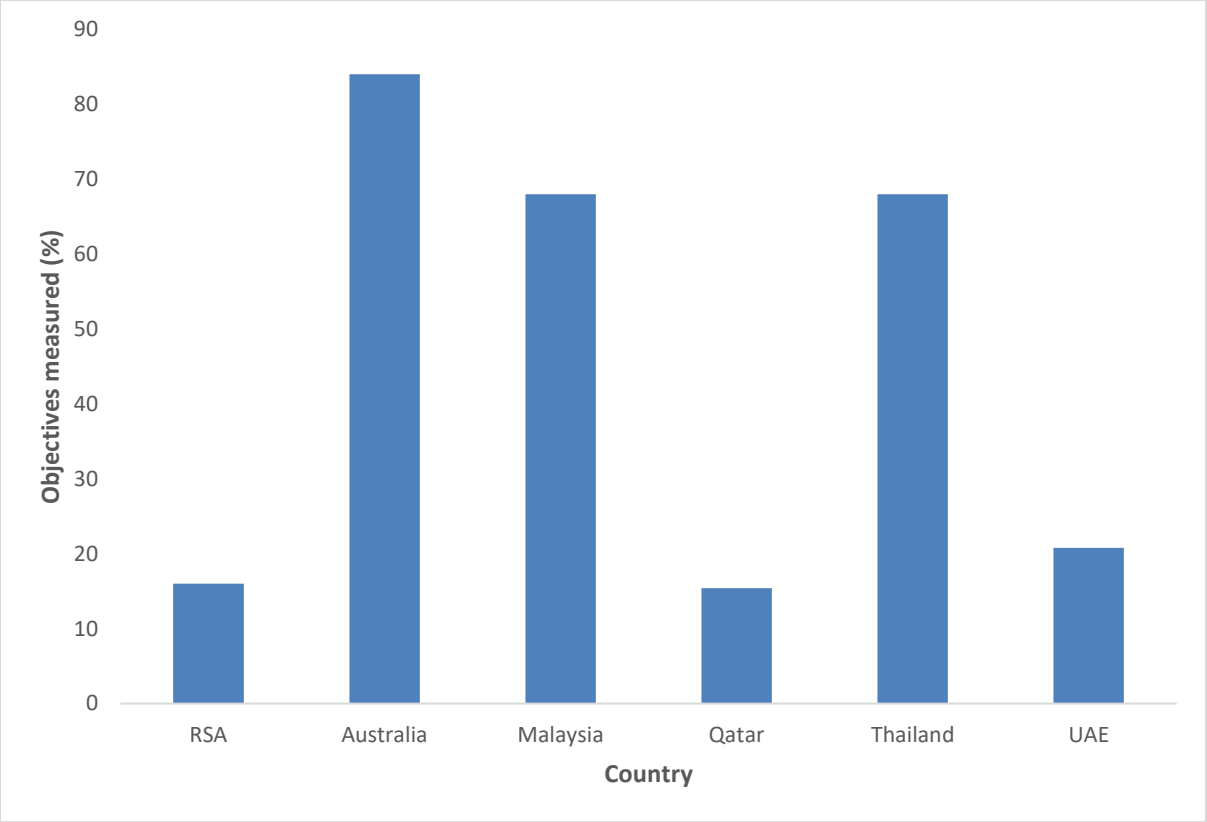


Figure 8: The percentage (%) of reports from each country measuring objectives against results.

4.2 The environmental SDG disclosure of 10 South African companies

Four environmental SDGs were assessed for any patterns regarding prioritisation. These SDGs included *Responsible Consumption & Production* (SDG 12), *Climate Action* (SDG 13), *Life Below Water* (SDG 14) and *Life on Land* (SDG 15). The results show a steady increase with regards to the mean environmental SDG score from 2017 to 2019 for the study companies from the metals and mining sector as well as the consumer products sector. However, the increase was observed more in the consumer products sector (Figure 9). The mean environmental SDG scores of the metal and mining sector was significantly higher than those of the consumer products for 2017 (Figure 10, $t_8 = 4.006$, $p<0.001$) as well as 2018 (Figure 10, $t_8 = 3.054$, $p=0.016$). The same

trend was observed for 2019, however the difference was not significant (Figure 10, t_8 =0.124, p=0.905). The same trend was also observed for each aspect of environmental SDG disclosure in 2017 (Figure 11) including defining the SDGs (W=17.5, p=0.337) setting priorities (W=15.5, p=0.577) setting goals and targets (W=16, p=0.501) integration (t_8=0.583, p=0.576) and reporting (t_8=0.534, p=0.608). The same trend was observed in 2018 (Figure 12) with defining the SDGs (t_8=0.534, p=0.024) setting priorities (W=23, p=0.68) setting goals and targets (t_8=0.8, p=0.447) integration (t_8=0.728 p=0.488) and reporting (t_8=0.930, p=0.37) with the difference being significant for defining the SDGs. The year 2019 showed more variation with the metals and mining sector scoring the highest for defining the SDGs (W=20.5, p=0.1037) while the consumer product sector scored the highest for setting priorities (W=8, p=0.339) as well as setting goals and targets (W=13, p=1). As for integration (t_8=0, p=1) and reporting (W=11.5, p=0.911), both sectors scored equally (Figure 13). All these were not statistically significant.

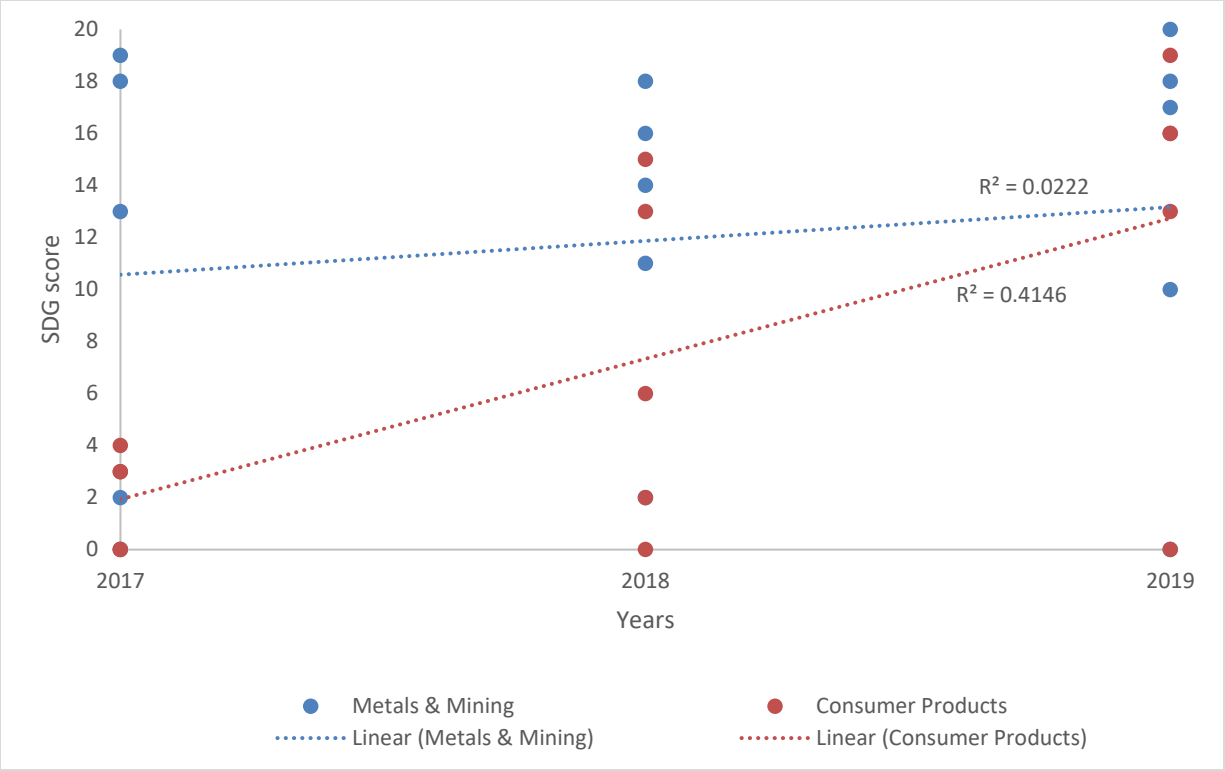


Figure 9: The SDG scores of five South African companies from the selected sectors respectively, from 2017 to 2019.

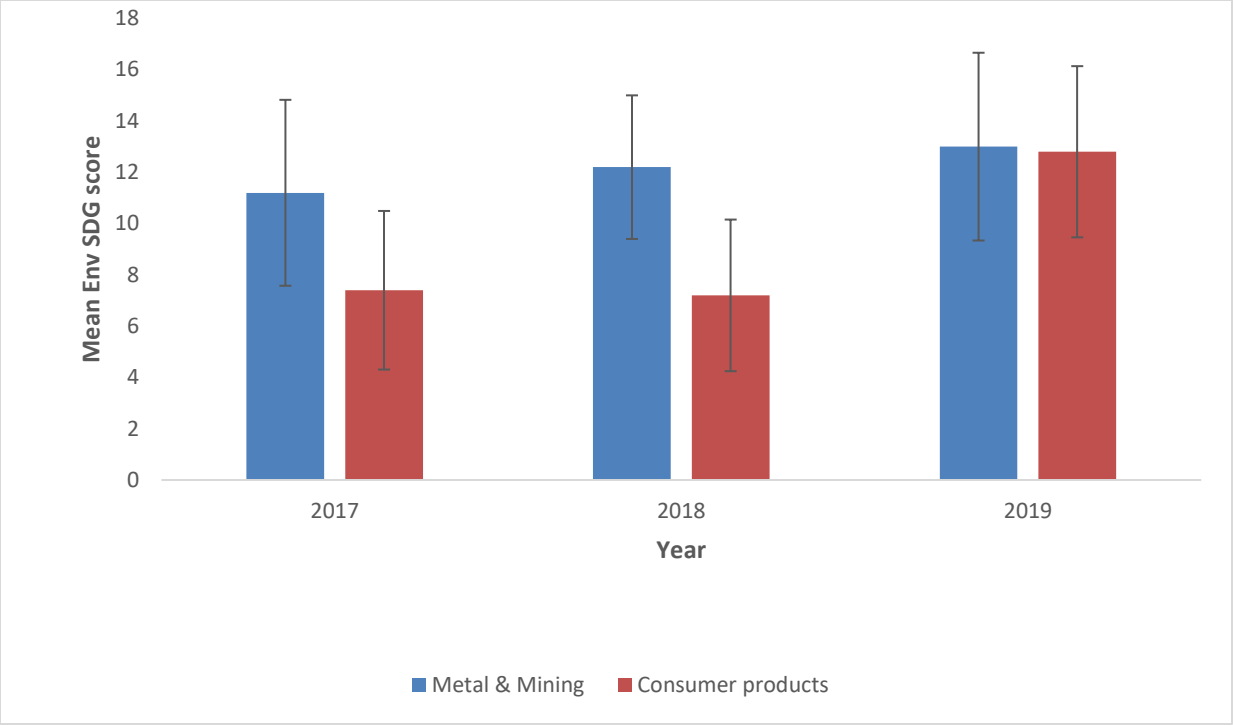


Figure 10: The overall mean environmental SDG scores of South African companies from the metals and mining and consumer products sectors respectively, from 2017 to 2019 with standard error bars.

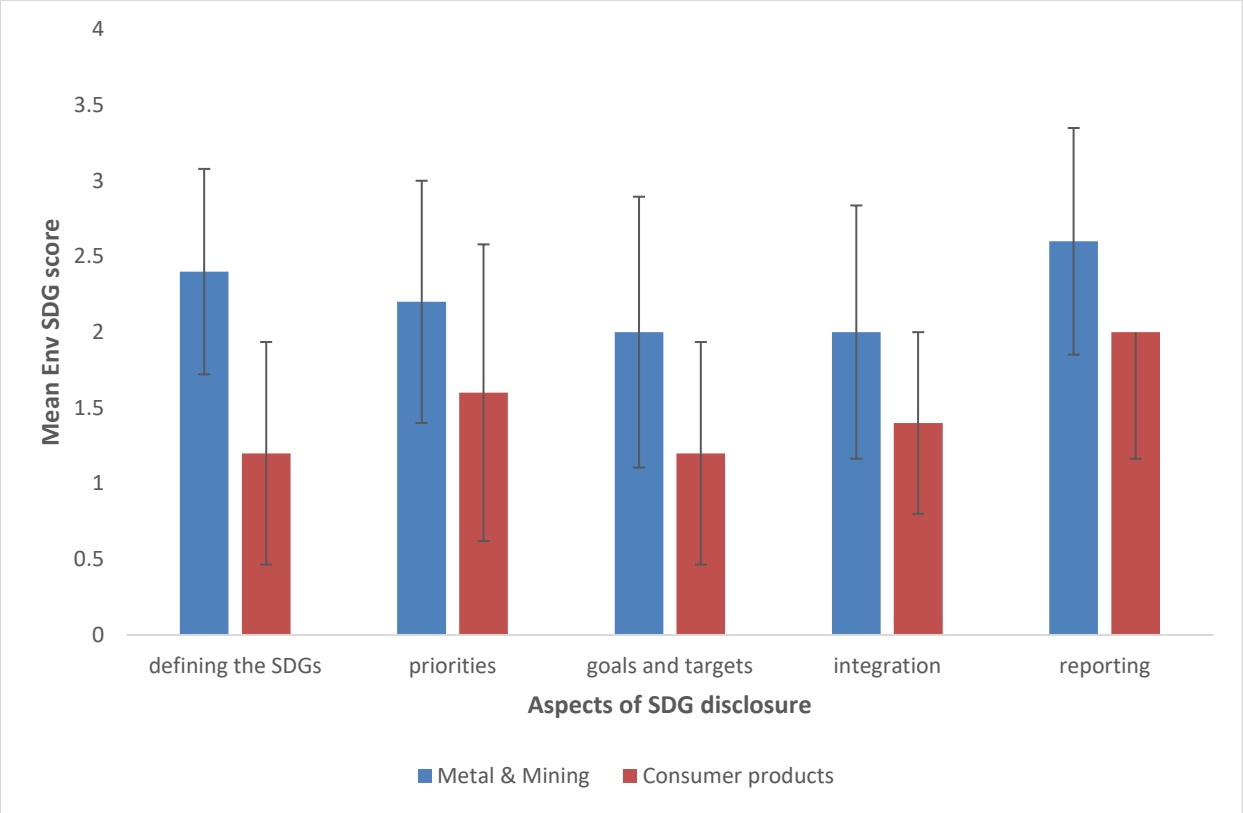


Figure 11: The mean environmental SDG scores of South African companies from the metals and mining and consumer products sectors for each aspect of environmental SDG disclosure in 2017 with standard error bars.

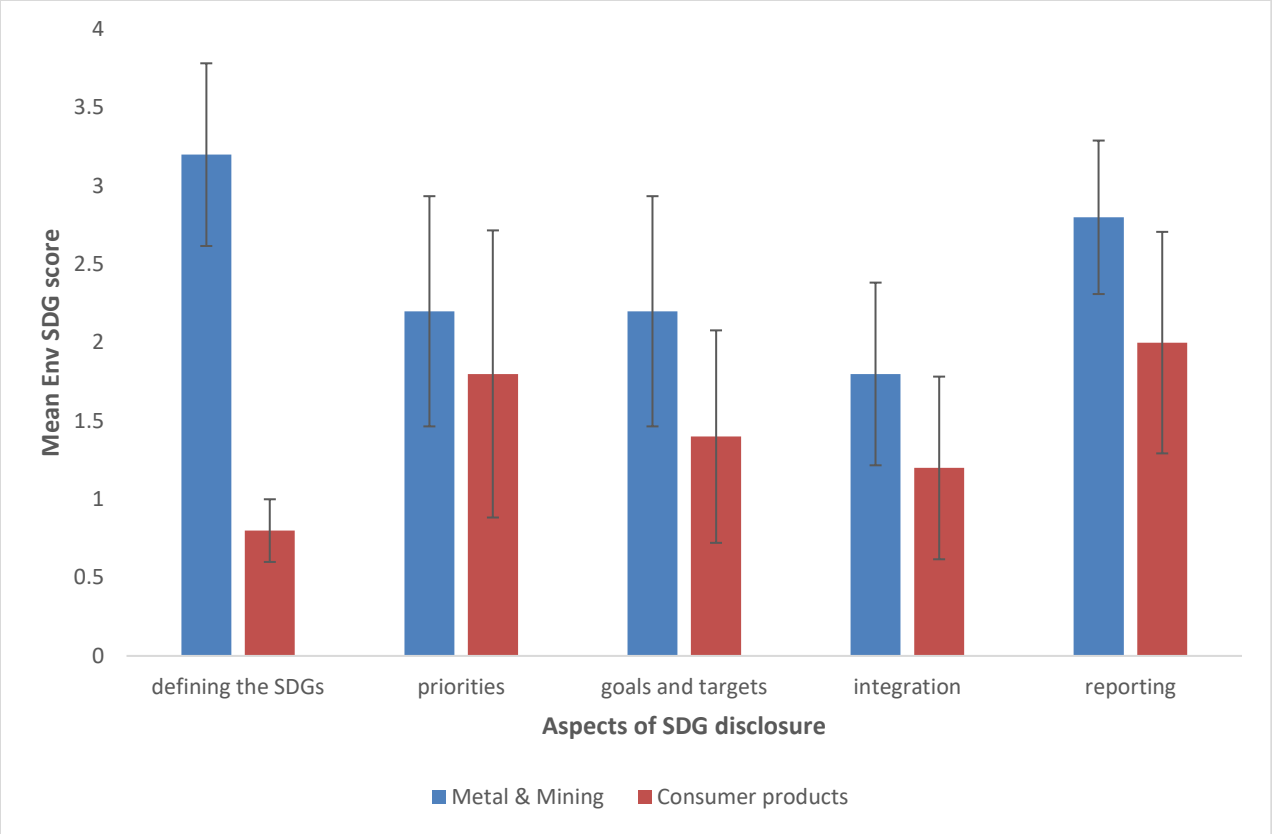


Figure 12: The mean environmental SDG scores of South African companies from the metals and mining and consumer products sectors for each aspect of environmental SDG disclosure in 2018 with standard error bars.

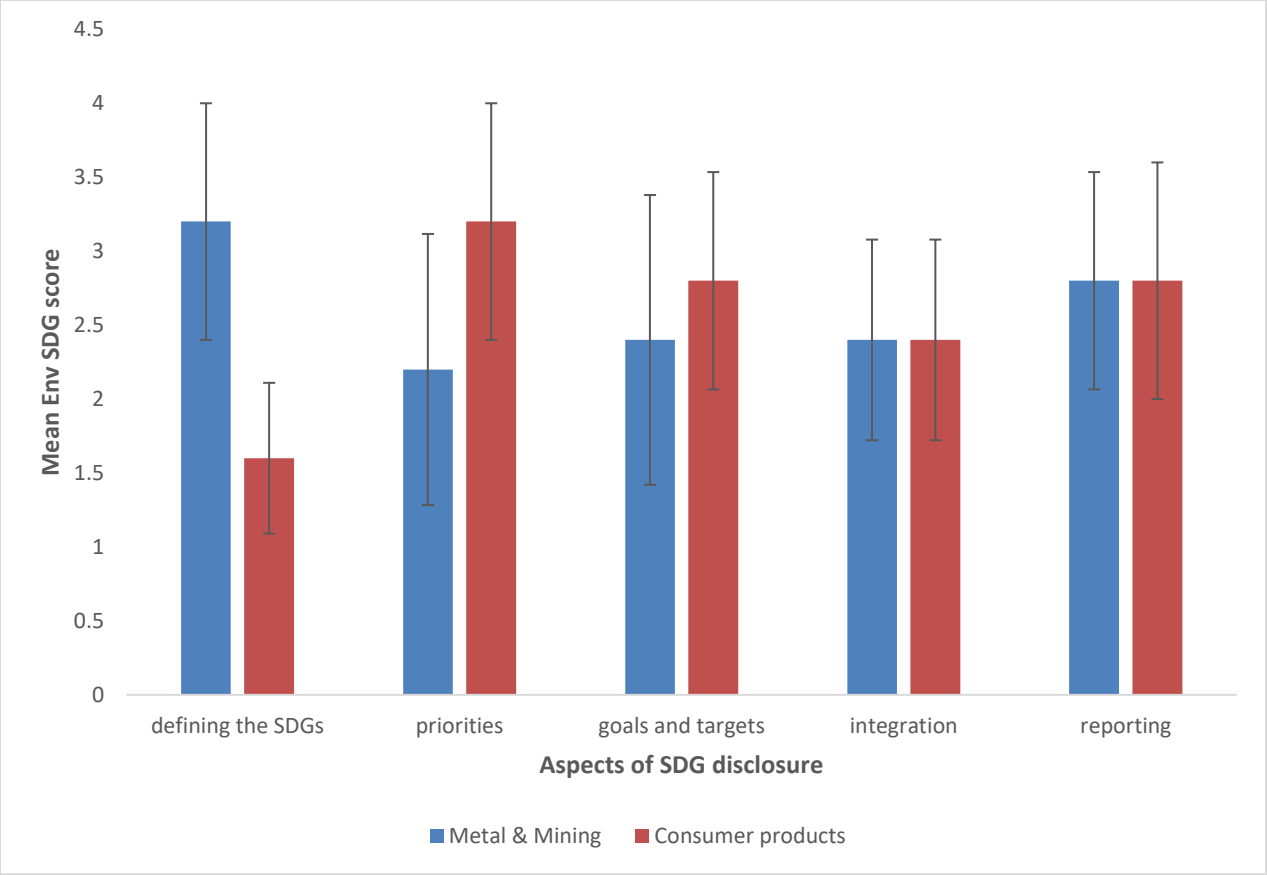


Figure 13: The mean environmental SDG scores of South African companies from the metals and mining and consumer products sectors for each aspect of environmental SDG disclosure in 2019 with standard error bars.

In 2017, SDG 12 and 13 were prioritised equally between the two sectors, respectively. SDG 14 and 15, on the other hand, were covered more extensively by companies in the metals and mining sector compared to the consumer products sector (Figure 14, χ^2=47.531, df=1, p<0.001; χ^2=8.595, df=1, p=0.003. In 2018, SDG 12, 14 and 15 were predominantly prioritised in reports from the metal and mining sector (Figure 15, χ^2=8.595, df=1, p=0.003; χ^2=47.531, p<0.001; χ^2=8.595, df=1, p=0.003). The two sectors continued to tie for SDG 13. In 2019, the percentage

of reports from the two sectors prioritising SDG 12 were equal. The trend for SDG 13 changed from what was observed in the previous years as the consumer products sector showed significantly more reports prioritizing it (Figure 16, χ^2 =7.22, p=0.007). On the contrary, SDG 14 and 15 were priorities in more reports from the metals and mining sector than the consumer product sector (Figure 16, χ^2=20.056, p<0.001; χ^2 =17.239, p<0.001). What has been consistent throughout the three years is that none of the reports from the consumer products sector prioritised SDG 14.

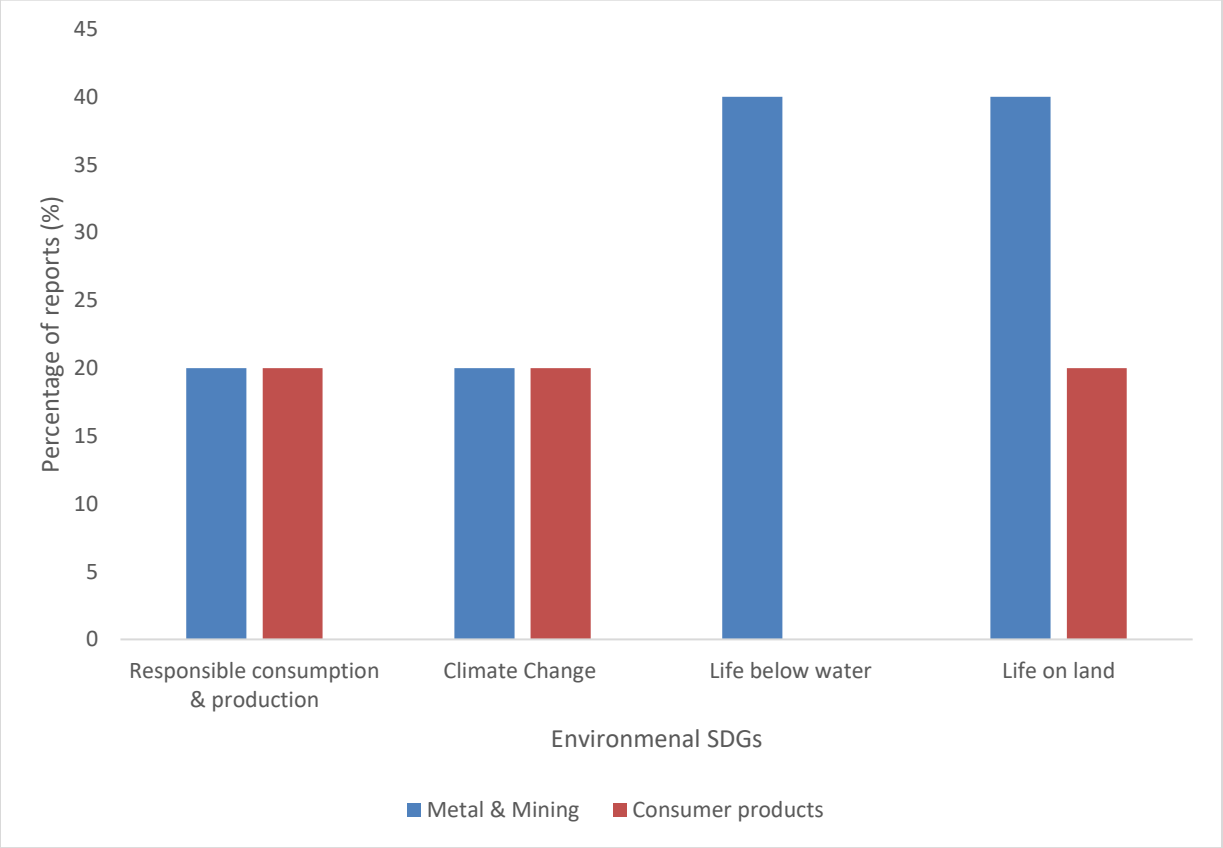


Figure 14: The percentage of reports addressing SDG 12, 13, 14, and 15 in 2017 from the selected sectors.

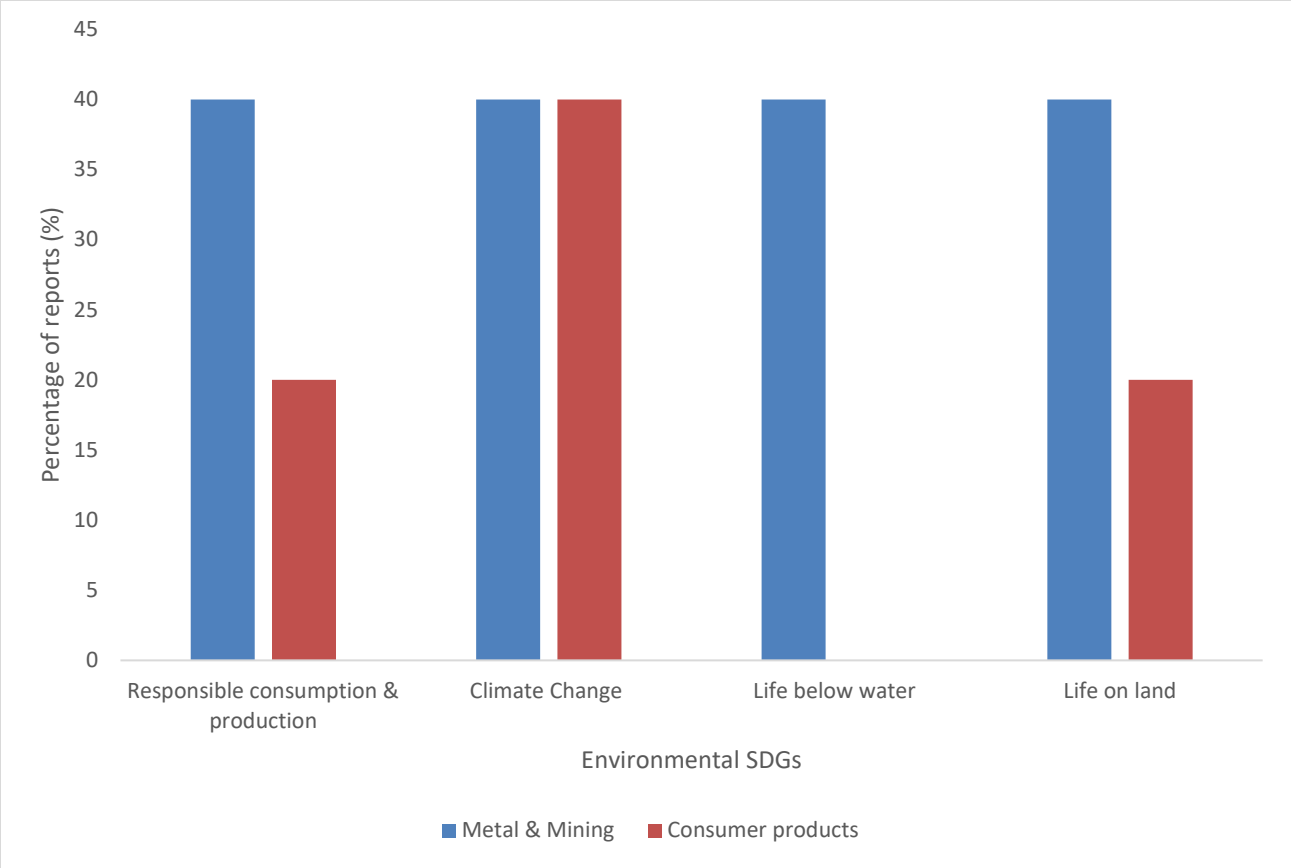


Figure 15: The percentage of reports addressing SDG 12, 13, 14, and 15 in 2018 from the selected sectors.

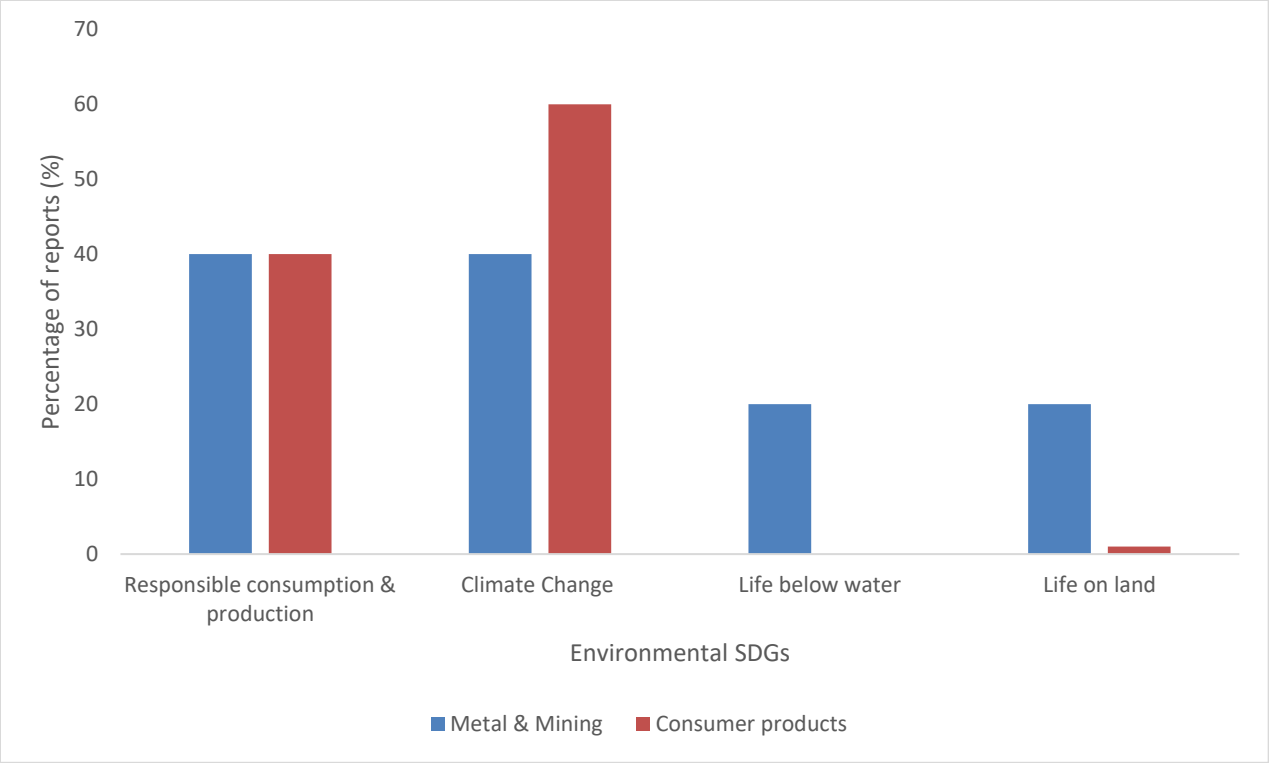


Figure 16: The percentage of reports addressing SDG 12, 13, 14, and 15 in 2019 from the selected sectors.

4.4 Interviews

Four sustainability managers and two sustainability consultants each working in the mining and retail sectors respectively, were interviewed in order to explore the relationship between the private sector in South Africa and the SDGs since its introduction in 2015. According to all six participants, there has been an improvement with regards to SDG awareness within the private sector in South Africa. According to them, the general awareness was initially amongst the sustainability professionals and there was a widespread notion that the SDGs were only applicable to the government. Although there has been observable improvement, not only in terms of awareness but also in terms of reporting on the SDGs, all the participants highlighted that there still seems to be lack of understanding regarding the actions and steps that need to be

taken by companies with regards to addressing the SDGs. One participant asserted that “the main driver for SDG engagement for South African companies is compliance with the sustainability reporting guidelines required by the JSE, whereas in Europe and America, it is more about environmental activism”.

As with the awareness, the SDG disclosure by the private sector in South Africa has seen an improvement according to all six participants. While this may be the case, all the participants stressed their concern regarding translating reporting into action. There are companies that have internalised the SDGs into the DNA of their operations, while other companies superficially mention the SDGs with pre-existing strategies and priorities, according to four participants . The two participants respectively working in the two sectors noted that their companies outsource their reporting to consultants to gain a competitive edge. Three participants argued that on a company level, it is rather difficult for companies to gauge their SDG contributions, instead they opt to just adhere to the GRI guidelines as it allows them to measure their sustainability performance.

All the participants agreed that there is considerable variation not only between sectors but within sectors as well. According to them, high impact sectors, such as the mining sector, are at the forefront due to high scrutiny and experience engaging with sustainability reporting. They further noted that, while the retail sector may be lagging behind, there are retail companies that are progressive with regards to engaging with the SDGs. Overall, there is a pronounced variation and divergence within the sectors and between the sectors, according to all the participants.

A few challenges were noted by all participants with the main one being inadequate internalisation of the SDGs. The participants all agreed that companies fail to recognise the

lucrative business opportunities presented by the SDGs, instead they include the SDGs as a part of Corporate Social Responsibility. Hence, “there is a need for education and references showing companies that are earning profit from implementing the SDGs”, according to one of the participants. Companies are also failing to engage with the SDGs on the level of indicators and targets according to two of the participants.

Mitigating challenges associated with addressing the SDGs comes down to leadership according to five of the six participants. One of the participants noted that “more awareness in executive offices and boardrooms is needed”. The same participant elaborated more and said that “most companies seem to be too conservative and resistant to new approaches in favour of adhering to organisational traditions and conventions”. However, one of the participants working for a retail company mentioned that “senior level executives in their organisation have begun focusing on the SDGs as part of their annual incentive plan”.

With regards to the types of SDGs addressed, the four sustainability experts agreed that there is a great deal of variation across sectors. They observed that social SDGs are primarily addressed due to their relevance as national priorities in the context of South Africa. Globally, environmental issues have gained traction over the years, especially climate change according to all the participants. All participants noted that the same trend can be observed in the private sector in South Africa, with climate change in particular being commonly addressed in the reports.

However, *Life on land* (SDG 15) and biodiversity in particular is addressed the least, likely because the SDG is too broad according to one participant. Another one mentioned that *Life below water* (SDG 14) shows the same trend due to lack of perceived materiality from

companies. One of the participants mentioned that “companies link the SDGs to the pre-existing priorities of the companies instead of linking their priorities to the SDGs”.

All six of the participants shared the sentiment that there is lack of government support. According to one participant, “the solutions presented by the government are short-sighted, quick and immediate”. They asserted that it would be more effective to invest in long-term, impactful solutions. With regards to the SDGs, there is a need for more regulations and enforcement as well as better communication between the private sector and the government, according to the six participants. They believe that companies focus primarily on what is mandatory, hence government visibility is needed.

The participants all had a shared perception of efficacy in the way that the SDGs are modeled. “Implementation is the main concern, although by design the SDGs were always going to be ambitious in order to optimise the resources and input from all stakeholders”, said one of the participants. The only criticism was from one participant who indicated that “some SDG targets are too broad while others are specific, thereby creating confusion on how to approach them”.

CHAPTER FIVE – DISCUSSION AND CONCLUSION

The aim of this study was to assess the reporting of the sustainability goals of the top 25 Johannesburg Stock Exchange (JSE) listed companies. This included comparing the reporting of the sustainability goals of South African companies against that of the United Arab Emirates (UAE), Thailand, Qatar, Malaysia and Australia to (1) determine whether there is variation in the reporting of sustainability goals; (2) determine the extent to which variation exist should it exist; (3) assess the possible drivers for the existing variation. Furthermore, I compared the environmental SDG disclosure of 10 South African companies with five being from the consumer products and metals and mining sectors respectively, from 2017 to 2019. References to the countries and sectors of the study companies are only done in relation to the study companies for the purpose of drawing comparisons.

5.1 Corporate reporting of sustainability goals: South Africa versus five countries

The results show all the assessed reports from South African companies having incorporated information regarding their sustainability activities in 2017. The percentage was significantly higher for South Africa than two of its five counterparts (Figure 5). This suggests efficacy on the part of JSE in enforcing corporate sustainability reporting with its regulations. Furthermore, the concept of sustainability had existed for decades, hence the majority of the countries across the spectrum had relatively more reports incorporating sustainability information (Tilt *et al*., 2020).

With regards to stating sustainability goals, four of the five countries were ahead of South Africa, three of the five were ahead with regards to setting time frames for the sustainability goals and lastly, three of the five countries were ahead of South Africa with regards to

incorporating indicators for the sustainability goals (Figure 5). With regards to measuring objectives against results, South Africa was lagging behind three of its five counterparts (Figure 9). All this may have been due to lack of understanding with regards to approaching sustainability reporting (Sturesson *et al*., 2018).

The percentage of reports addressing the three types of sustainable development initiatives, namely social, economic and environmental, was lower for South Africa than all five of its counterparts due to reasons already mentioned. What is noteworthy is that the percentage of reports addressing social initiatives was marginally higher than the percentages addressing environmental and economic initiatives which were lower (Figure 6). South Africa, and Africa in general, is ravaged with a myriad of social issues such as poverty, lack of access to clean water, malnutrition etc. Hence, social issues have remained a national priority and this trickles down to the private sector through the implementation legislation (Haywood et al., 2019)).

According to Tilt et al., (2020) South Africa was amongst the countries at the forefront of sustainability reporting in accordance with the GRI standards. Similarly, my results show all the reports (sustainability, integrated and annual) of South African companies having followed the GRI guidelines, thereby outperforming the other countries (Figure 7). According to all the interviewees, the main driver of sustainability reporting in South Africa is compliance with the JSE and the GRI guidelines, whereas in Europe and America it has more to do with environmental activism. One of the interviewees also mentioned that it was rather difficult for companies to gauge their contributions using the SDG framework of the 17 goals and 169 targets, thereby resulting in South African companies opting to just adhere to the conventional GRI guidelines instead during the first years (2016-2017) of the SDGs. Research by Ioannou & Serafeim (2017) shows that by following guidelines, companies are able to enhance their

sustainability performance, investor communication and risk management, engage and improve their relations with stakeholders, engage and motivate employees as well as build credibility which implicitly enhances the reputation of companies. All these may have been drivers for companies to follow the GRI guidelines together with compliance with the JSE regulations.

PricewaterhouseCoopers (2019) conducted a study to measure the extent of SDG integration into business strategies and operation. This was done by assessing the sustainability reports, annual reports, the CEO or Chairperson statement and the strategic summary reports or integrated reports. The reports of 1,141 companies from 31 countries across seven sectors were assessed. The results showed that measuring progress is conspicuously lacking as only 8% of the reports were shown to quantitatively measure progress (PricewaterhouseCooper, 2019). This raises the question of whether companies are truly engaging with the SDGs or just simply engaging in "SDG washing", wherein companies are laying out plans to align with the agenda without making any meaningful contributions (Kornieieva, 2020). This concern was highly emphasised in my interviews as well.

5.2 The environmental SDG disclosure of South African companies

The second part of the study looked to compare the environmental SDG disclosure of five South African companies from the consumer products and metals and mining sectors respectively. Overall, the results showed a steady increase from 2017 to 2019 in environmental SDG disclosure for the study companies within both sectors (Figure 9). With regards to sector-based comparison of environmental SDG disclosure, the study companies from the metals and mining sector performed better than those from the consumer products sector (Figure 10-13).

According to all the interviewees, SDG disclosure was lacking during the first years after the SDGs were launched (2016-2017) and awareness was found only among sustainability experts. In contrast to my findings of poor SDG awareness from the interviews, a report by PricewaterCoopers (2016) revealed that SDG awareness was 87% during the first years of this global agreement. While 48% of companies globally perceived the SDGs as a government project, 65% of companies were making plans on how to engage with the SDGs (PricewaterCoopers, 2016.)

A report by Sustainable Development Goals Center for Africa (2020) indicates that Africa is still lagging behind the majority of the world with regards to achieving the SDGs. According to the report, South Africa is scheduled to only achieve three of the 17 goals which are *Climate Action* (SDG 13), *Life on Land* (SDG 15) and *Gender Equality* (SDG 5). Of the three SDGs that Africa is projected to achieve by 2030, two happen to be environmental SDGs (SDG 13 and 15) (Jiménez-Aceituno *et al*., 2020). My results showed a steady increase in environmental SDG scores for the 10 South African companies from 2017 to 2019 (Figure 9). This is in no way an indication that South Africa is addressing environmental SDGs adequately as Africa is projected to achieve only two out of four environmental SDGs. However, the improvement with regards to addressing environmental issues over the years does coincide with overall improvement in environmental SDG engagement, as observed by all the interviewees.

The level of engagement from the government usually trickles down to the private sector through the implementation of laws and policies (Demiral *et al*., 2021). The South African government has shown a considerable level of engagement with regards to environmental issues over the years (Demiral *et al*., 2021)). This may explain the improvement over time with regards to addressing environmental SDGs as companies already have pre-existing strategies in place to

adhere to environmental legislations and regulations. With climate change proving to be amongst the biggest global threats, policies have been put in place to hold companies accountable for their environmental impacts (Negash & Lemma, 2020). Furthermore, companies are required to report on their environmental impacts, thus making the SDGs, in addition to the GRI guidelines, a useful framework (Pedersen, 2018).

The extent to which environmental laws and policies are effective in promoting environmental stewardship in the private sector is a major concern (Papu-Zamxaka *et al*., 2010). A baseline assessment was conducted by the Centre for Environmental Rights that looked at 20 JSE listed companies that frequently appeared on the JSE's Socially Responsible Investment Index (SRI Index) between 2008 and 2014. It was found that companies failed to disclose the extent of non-compliance with environmental legislations to appease shareholders while also resorting to misrepresentation of compliance (Dasnois, 2015).

The selection of priority SDGs tends to vary across sectors with companies prioritising SDGs that are directly relevant to their operations (Gutterman, 2020). From 2017 to 2019, the results showed the mining and metals sector to have more reports addressing environmental SDGs due to the case of relevance (Figure 10). While the mining sector plays a central role in South Africa's economy, the positive economic impacts come with a number of negative social and environmental impacts (Pretty & Odeku, 2017). Abandoned mines, acid mine drainage and toxic wastes from mining have all led to severe water and air pollution, thereby posing a major risk to communities as well as the environment. The largest source of pollution in South Africa comes from mining wastes (Pretty & Odeku, 2017). With legislation being a common tool used to combat such sustainability issues, it comes as no surprise that the mining sector has numerous laws, regulations and policies (Dzingai & Fakoya, 2017). Research shows the mining sector

performance relatively well with regards to sustainability reporting (Dzingai & Fakoya, 2017). In this study, the same trend was observed with the metals and mining sector obtaining the highest environmental SDG score in comparison to the consumer products sector in all the three years of assessment (Figure 10). According to all the interviewees, there is considerable variation not only between sectors but within sectors as well. According to them, high impact sectors, such as the mining sector, are in the forefront of environmental SDG disclosure mainly due to high scrutiny in conjunction with experience engaging with sustainability reporting.

The consumer products sector has environmental impacts that are both direct and indirect, hence environmental SDGs are equally relevant to this sector. The direct impacts include energy usage and waste production which can be mitigated in various ways such as switching to light-emitting diode (LED) lighting and developing waste management systems that can recycle solid wastes (Naidoo & Gasparatos, 2018). There are also indirect impacts associated with logistics /supply chain transportation which tend to be overlooked. The manner in which goods are imported and distributed can significantly impact greenhouse gas emissions. Reducing the distance traveled by modes of transportation such as trucks, ships and airplanes can offset greenhouse gas emissions (Naidoo & Gasparatos, 2018). The SDGs provide a useful framework wherein both direct and indirect environmental impacts can be mapped out, thereby providing clarity in approaching them.

My results show the consumer products sector to be lagging behind the metals and mining sector with regards to environmental SDG disclosure. This is likely due to lack of perceived materiality predicated on the indirect environmental impacts which was noted by one interviewee working in this particular sector. However, the difference is not as significant as I anticipated. This may be due to the growing awareness from consumers regarding the environmental impacts of the

brands they purchase. A study by the Retail Sector Leaders Association (RILA) revealed that 93% of consumers globally expect brands to be socially and environmentally responsible (Khaleeli & Jawabri, 2021). According to a Nielsea study, millennial consumers are willing to pay extra money for environmentally friendly products (Khaleeli & Jawabri, 2021).

The consumer products sector can play a significant role in the achievement of environmental SDGs. The sector involves complex supply chains extending globally (Pedersen, 2018). Environmental impacts appear smaller for the consumer products sector due to them being spread over a wide value chain. However, the sector is in a position where they can drive changes from upstream as well as downstream in the economy (Amoako *et al*., 2020). By demanding environmentally friendly products on the shelves, the impacts of consumer products sector can be far reaching to where they affect other sectors like agriculture, not only locally but globally as well (Kastner *et al*., 2011).

With regards to the five aspects of environmental SDG disclosure, the first two years showed the metals and mining sector scoring relatively higher across the entire spectrum (Figure 11; Figure 12,). In 2019, there seemed to be a drastic increase that showed the consumer product sector to not only having improved their environmental SDG score but to be scoring higher than the metals and mining sector in certain aspects of environmental SDG disclosure, including setting goals and targets as well as priorities (Figure 13,). An interviewee working for a retail company mentioned that senior level executives in their organisation have begun focusing on the SDGs as part of their annual incentive plan. There are also progressive retail companies that are in the forefront of SDG disclosure and this is spreading within the sector (Cherian & Jacob, 2012).

Major European retail companies are at the forefront of addressing the SDGs (Jones & Comfort, 2020) and my results seem to suggest a growing awareness within the sector in South Africa. The trend in the results may in part be due to the global shift towards going 'Green' (Cherian & Jacob, 2012). A survey involving 241 consumers around southern Gauteng conducted by Dubihlela & Ngxukumeshe (2016) to investigate the relationship between South African repurchase intention of eco-friendly products and the attributes of eco-friendly retail products showed that the majority of customers are more likely to continue purchasing eco-friendly products (Dubihlela &Ngxukumesha, 2016). With stakeholders becoming more environmentally conscious, it comes as no surprise that the consumer products companies have improved from 2017 to 2019 in addressing environmental SDGs (Figure 9).

Climate change remains a dire global threat affecting all sectors of business. While compliance may be the primary driver for climate action in the metals and mining sector, mining companies recognise potential threats of climate change which include damage to built structures and buildings, tailings, slope stability, water retention structures as well as site hydrology (Ordell *et al*., 2018). Hence, we see the metals and mining sector leading in all three years with regards to environmental SDG disclosure (Figure 10) as there is a sense of urgency to pre-empt these environmental problems that may possibly ensue. Although the metals and mining sector is leading overall, there is a growing awareness around the SDGs and the materiality of environmental SDGs in the consumer product sector, particularly *Responsible Consumption and Production* (SDG 12) and *Life on Land* (SDG 15) in the sector (Jones & Comfort, 2020). Overall, there is a pronounced variation and divergence between the sectors with regards to environmental SDG disclosure.

5.3 Comparative assessment of sector-based environmental SDG preference

Research shows that sectors prioritise SDGs that are of relevance to them and the interviewees observed the same trend as well. Food producers for instance find *Responsible Consumption and Production* (SDG 12) to align with their commitments to monitor their water usage in the day-to-day operations of factories which ultimately serves their economic interests. On the other hand, the environmental SDGs commonly addressed in the reports of mining sectors are *Climate Action* (SDG 13) and *Responsible Consumption and Production* (SDG 12). As the world is shifting towards renewable energy, the sector faces this transformational change (Haywood & Boihang, 2020). A lot of emphasis is being placed on reducing environmental impacts and the mining sector, in particular, is under pressure to use all the tools, including global agreements such as the SDGs or renewable technology, to reverse the long-standing legacy of environmental degradation (Edwards *et al*., 2014).

Research indicates that *Life below Water* (SDG 14) is addressed the least by companies globally (Sturesson *et al*., 2018). My results revealed that engagement with this particular SDG was non-existent in the consumer products sector in all the three years of assessment (Figure 14, 15 and 16). A possible explanation may be that SDG 14 has a relatively broad scope resulting in companies being uncertain on how to address it (Sturesson *et al*., 2018). This gives more credence to the only criticism of the SDGs from my interviews which was that some SDGs targets are too broad while others are specific, thereby creating some confusion in the private sector. Perceptual relevance may also be a key factor as operational activities of companies in this sector do not directly affect aquatic life (Ntona & Morgera. 2018). The metals and mining sector, on the other hand, has a history of adversely affecting aquatic life through industrial processes that resulted in acid mine drainage (Pretty & Odeku, 2017). Examples are seen with

Mpumalanga coalfields and Witwatersrand basin (Naidoo, 2015). Hence, we see SDG14 being consistently addressed in metals and mining sector reports in the three years of assessment (Figure 14,15 and 16). Other SDGs such as *Responsible Consumption and Reproduction* (SDG 12) are of relevance across the private sector, including the two selected sectors, as operations require the use of water and electricity (Hamwi & Lizarralde, 2017). Hence, my results show both sectors having an equal percentage of reports addressing this particular SDG in 2017 and 2019 (Figure 14 and 16).

Climate change is the biggest global threat and as expected, the SDG addressed the most by companies from both sectors. Barkemeyeret *et al*. (2017) showed that 63% of companies globally were actively engaging with this particular SDG. The nature of the mining sector has resulted in a lot of attention being given to this enormous global threat over the years. In addition, the world and media have placed more emphasis on climate change than on any other environmental SDG, thus creating more awareness across the different sectors, including the consumer products sector (Barkemeyeret *et al*., 2017). The results show that equal percentages of reports from both sectors were addressing *Climate Action* (SDG 13) in 2017 and 2018 (Figure 14 and 15); however, the growing sector awareness may also explain the trend in 2019 where this particular SDG was addressed more in the consumer products sector than metals and mining sector (Figure 16).

Life on land (SDG 15) was addressed in more reports from the metals and mining than the consumer products sector in the three years of assessment. This goes back to the difference in the operational nature of the two sectors. Mining projects have negatively impacted wildlife, caused deforestation and habitat loss, adversely affected biodiversity and more. As such, the level of scrutiny is relatively intense in this sector to address these innate problems, whereas with the

consumer products sector, the impacts are indirectly linked with the supply of goods and not perceived to be material (Pretty & Odeku, 2017).

Overall, my findings coincide with documented research as well as the observations made by the interviewees suggesting that companies prioritise SDGs that are of relevance to them. Relevance appears to be dictated by the nature of the sector within which the companies operate. Hence, sector-based focus of specific SDGs as suggested by one of the interviewees may prove to be effective as it would provide more clarity on how companies can approach the SDGs as the SDGs by design are broad and ambitious.

5.4 Study limitations

The COVID 19 pandemic presented a few limitations to this study. Companies were too preoccupied tackling the challenges presented by the pandemic, making it more difficult to secure interviews with the sustainability managers. The number of interviews with individuals in the field of corporate sustainability was only limited to six and the sample size of the entire study was limited to the 25 JSE listed companies in order to replicate the study by Pillai *et al*., (2017). What I would have done differently includes conducting more interviews with individuals working within the two study sectors and increased the sample size for the second part of the study which evaluated the environmental SDG disclosure of five companies from the two selected sectors respectively.

5.6 Conclusion

My study compared the corporate sustainability reporting of 25 South Africa against that of five other countries in 2017. Furthermore, the environmental SDG disclosure of five South African

companies from the mining and metals and consumer products sectors respectively, was assessed from 2017 to 2019. My findings revealed that South Africa was lagging behind its counterparts with regards to sustainability reporting. While topics relevant to sustainability such as climate change and poverty are being addressed, my findings suggest that the study companies failed to do so within the framework of sustainability goals and the SDGs, suggesting that there may have been lack of understanding with regards to approaching SDG disclosure and sustainability goal disclosure during the formative years (2016-2017) of this global agenda, as emphasised by the majority of the interviewees. However, since 2017, there has been improvement, particularly with environmental SDG disclosure. The findings also suggest variation with regards to environmental SDG disclosure between the metals and mining and consumer products sectors with environmental SDG disclosure being observed more in the metals and mining sector possibly due to the operational nature and history of environmental degradation in conjunction with the heightened scrutiny within the sector. However, the consumer products sector has shown an increase in environmental SDG disclosure even though the change is not pronounced. There is also variation with regards to preference for particular environmental SDGs which may be due to the nature of the two sectors creating perceptual difference with regards to relevance and materiality. For example, *Life on land* (SDG 15) was addressed more by companies from the metals and mining sector due to mining operations affecting biodiversity directly and causing habitat loss. For improvement to occur, the potential within the private sectors must be unlocked and the relationship between the private sector and the government must be strengthened. The SDGs are a government project but the private sector has a role to play. If the relationship between the private sector and the government is as poor as the interviewees indicated then, there will not be enough collaborative effort to achieve the national SDG targets. Furthermore, the

nature of the different sectors within which companies operate appears to influence SDG engagement, hence they must be better understood. Evaluating the SDG disclosure of companies may be the first step to doing so.

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APPENDICES

Appendix 1: Four of the United Nations Environmental SDGs (Ahmud, 2017)



Appendix 2: Environmental SDGs and their targets as per United Nations' Sustainable Development Goals (SDGs) and The 2030 Agenda for Sustainable Development (Colglazier, 2015)

ENVIRONMENTAL SDG	TARGETS
SDG 12 (Sustainable Consumption and Production)	**Target 12.1** Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries **Target 12.2** By 2030, achieve the sustainable management and efficient use of natural resources **Target 12.3** By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses **Target 12.4** By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment **Target 12.5** By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse **Target 12.6** Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle **Target 12.7** Promote public procurement practices that are sustainable, in accordance with national policies and priorities **Target 12.8** By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature **Target 12.A** Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production

	Target 12.B Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products **Target 12.C** Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities
SDG 13 (Climate Action)	**Target 13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries. **Target 13.2** Integrate climate change measures into national policies, strategies and planning. **Target 13.3** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning. **Target 13.A** Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly $100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible. **Target 13.B** Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
SDG 14 (Life Below Water)	**Target 14.1** By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution. **Target 14.2** By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.

	Target 14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels. **Target 14.4** By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics. **Target 14.5** By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information. **Target 14.6** By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation. **Target 14.7** By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism. **Target 14.A** Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries. **Target 14.B** Provide access for small-scale artisanal fishers to marine resources and markets. **Target 14.C** Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal

	framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want.
SDG 15 (Life on Land)	**Target 15.1** By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements. **Target 15.2** By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally. **Target 15.3** By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world. **Target 15.4** By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development. **Target 15.5** Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species. **Target 15.6** Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed. **Target 15.7** Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products. **Target 15.8** By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species. **Target 15.9** By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.

	Target 15.A Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems. **Target 15.B** Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation. **Target 15.C** Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities.

Appendix 3: Interview questions

1. Since the introduction of the SDGs, how has the general awareness in the private sector been?
2. How is the SDG disclosure of the private sector?
3. Any observable variations within the different sectors?
    a. What are the drivers of these variations?
4. What are some of the most common challenges faced by the private sector regarding SDG disclosure?
    a. How can these challenges be addressed?
5. Which SDGs (social/economic/environmental) are being addressed the most by the private sector?
6. Do sector-based preferences exist with regards to prioritisation of specific SDGs
    a. Which factors drive these preferences?
7. Is the government adequately supporting the private sectors?
    a. How is the government encouraging participation from the private sector?
8. What are the attitudes that companies have towards the SDGs?
9. Any criticisms of the SDGs
10. Any final words?