

Discerning the Substratum, Potentials, and Challenges of the Paradigm Shift to Corporate Sustainability in the Extractive Industries

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ABSTRACT: Crisply, the extractive industries (EI) are seen to have strong and direct social, environmental, and economic impacts. Especially as their operations, primarily in the developing world, involve the extractive companies often working directly with the most vulnerable people. As such operations dramatically alter the natural surroundings where they work, with the potential of making volatile economies even more unstable. On this account, extractive companies must be aware of the potential impacts of their activities, plan, and execute strategies that will have positive and sustainable net outcomes in the long term. For this reason, the paper aims to contribute to the research field of corporate sustainability (CS). As such, based on qualitative analysis, it outlines the key issues of sustainability, and introduces the literature and theories that brings to lamplight the paradigm shift to CS, and how they are applied in the EI. Although the implementation of sustainability in its varied forms, has led to several challenges for businesses. In this case, by providing a broader context of the historical and contemporary insights and interface of sustainable development and CS, the more narrow questions about the specific challenges of CS are tackled. As the paper illuminates how the CS strategy and implementation can curb the challenges related to the implementation. As such, bringing a topic of this nature into the research arena is relevant for the current research front on, and the development of the work of the organisation with sustainability. Since it is based on the existing literature, corroborated by the empirical analysis of the potential and challenges of CS in the EI, with the aim to provide appropriate recommendations for the way forward.

Keywords: Substratum, Paradigm Shift, Corporate Sustainability, Extractive Industries

INTRODUCTION

Explicitly, Corporate Sustainability (CS) evolved as a derivation of the concept of sustainable development, which was first introduced by the United Nations' World Commission on Environment and Development (WCED).² As such, although the ideas of sustainable development are much older, which can be traced at least back to the preservation and conservation movements of the 18th and 19th Centuries - its definition in the *Brundtland* report of WCED marks the entry of the concept into the modern lexicon. With the 1992 United Nations Conference on Environment and Development (UNCED, that is, the Rio Earth Summit having popularised it, thus, signalling the beginning of the coordinated engagement of business with the sustainability agenda that happened in two ways. On the one hand, the International Chamber of Commerce (ICC), which drafted a 16-principle Business Charter for Sustainable Development, declared that "businesses share the view that there should be a common goal, not a conflict, between economic development and environmental protection, for the present and future generations", with "the objective to enable the widest range of enterprises commitment to improve their environmental performance in accordance with the principles, have in place management practices to effect such improvement, measure their progress, and report this progress internally and externally as appropriate".³ While on the other hand, under the leadership of the Swiss business entrepreneur - *Stephan Schmidheiny*, a coalition of around 50 international companies formed the Business Council for Sustainable Development (BCSD)⁴ - which prepared a "Declaration of the Business Council on Sustainable Development" and a book called "*Changing Course*".⁵ With the book providing an extensive analysis of how the business community can adapt and contribute to the crucial goal of sustainable development – which combines the objectives of environmental protection and economic growth.

Notwithstanding, after UNCED, the ICC formed the World Industry Council on the Environment, which merged with BCSD on 1 January 1995 to form the World Business Council on Sustainable Development (WBCSD). Likewise, the other major shaper of the CS idea is *John Elkington*, who is an activist, consultant, and author in the sustainability field. Aptly, among his most influential achievements are the publication of the million-copy bestseller, "*The Green Consumer Guide*"⁶ and the seminal "*Cannibals With Forks: The Triple Bottom Line of 21st Century Business*"⁷. As well, he helped to popularise key terms like environmental entrepreneur, environmental excellence, green consumer, people-planet-profit or people-planet-prosperity,

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² WCED (1987). *Our Common Future*: World Commission on Environment and Development.

³ ICC (1992). Business Charter for Sustainable Development. Paris: International Chamber of Commerce.

⁴ Timberlake, L. (2006). *Catalysing Change: A Short History of the WBCSD*. (Geneva: WBCSD).

⁵ Schmidheiny, S. (1992). *Changing Course: A Global Business Perspective on Development and the Environment*. (Boston: MIT Press).

⁶ Elkington, J., and Hailes, J. (1997). *The Green Consumer Guide*. (London: Victor Gollancz).

⁷ Elkington, J. (1997). *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. (London: John Wiley and Sons).

sustainable corporation, and the triple bottom line (TBL).⁸ From which, the most significant for the purpose of this paper, are the concepts of sustainable corporation and the TBL. Since with respect to the TBL, *Elkington* emphasizes in 1994 that corporations should not just focus on the economic value that they add, but should also focus on the environmental and social value they add or destroy. Equally, in “*A to Z of corporate social responsibility (CSR)*”⁹, he recalls that the TBL was developed to counter the narrower focus on the then fashionable term *eco-efficiency*, which focused on the financial and environmental dimensions of performance. Although the TBL thinking, by contrast, extends to social impacts, and the wider economic impact issues that are rarely captured in the traditional financial bottom line. Similarly, it is observed that the notion of sustainable corporation was also introduced in 1994, when *Elkington* defined it rather loosely as “some of the ways in which business is now developing new ‘win-win-win’ strategies in relation to sustainable development, to simultaneously benefit the company, its customers, and the environment”.¹⁰ For this reason, *Elkington* defines CS as “the field of thinking and practice by means of which companies and other business organisations work to extend the life expectancy of the ecosystems (and the natural resources they provide), societies (and the cultures and communities that underpin commercial activity), and economies (that provide the governance, financial and other market context for corporate competition and survival)”.¹¹

In this connection, on the one hand, the TBL conception of CS is now widely used among business practitioners. With the WBCSD having claimed that it has brought together its 180 international member companies “in a shared commitment to sustainable development through economic growth, ecological balance, and social progress”. Which is made more significant in 2006, when the WBCSD was rated by sustainability experts worldwide as the business organisation most likely to play a “major role” in advancing sustainable development over the next five years.¹² Equally, another example of the growing acceptance of TBL is its use in the Global Reporting Initiative’s (GRI) Sustainability Reporting Guidelines, which has a vision that one day “reporting on economic, environmental, and social performance by all organisations is as routine and comparable as financial reporting”.¹³ While on the other hand, CS can be regarded as related to the older concepts and theories of corporate citizenship,¹⁴ business ethics,¹⁵ CSR,¹⁶ and stakeholder management¹⁷. As such, in commenting on the ‘interwoven’ concepts of CSR, sustainable development, and the stakeholder approach, *Wheeler et al.* observe that these concepts are often assumed to be consonant but are variously advocated from political, sociological, ethical, ecological, and business perspectives.¹⁸ Besides, while regarding the TBL conception of sustainability, they argue that “sustainability is not equated *per se* with environmentalism, social justice, economic prosperity or spiritual development, though all of those ideals are consistent with a sustainability mind-set”.¹⁹

Congruently, it is worth noting that CS is an approach aiming to create long-term stakeholder value through the implementation of a business strategy that focuses on the ethical, social, environmental, cultural, and economic dimensions of doing business.²⁰ With the strategies created being intended to foster longevity, transparency, and proper employee development within business organisations.²¹ Despite this, it is observed that CS is often confused with CSR, though the two are not the same.²² In this vein, *Bansal and DesJardine* aver that the notion of ‘time’ discriminates sustainability from CSR, and other similar concepts. This is because although ethics, morality, and norms permeate CSR, sustainability only obliges businesses to make inter-temporal trade-offs to safeguard intergenerational equity. As such, short-termism is the bane of sustainability.²³ Conversely, as the phrase, CS is derived from the concept of “sustainable development” and “TBL”. With the Brundtland Commission’s Report, *Our Common Future*, having described sustainable development as, “development that meets the needs of the present without compromising the

⁸ Elkington, J. (1994). “Towards the Sustainable Corporation: Win-Win-Win Strategies for Sustainable Development”. *California Management Review*, 36(2): pp. 90-100; Elkington (1997)., *op cit*; Elkington, J. (2004). *Enter the Triple Bottom Line*, In Henriques, A. and Richardson, J. (Eds.). *The Triple Bottom Line: Does It All Add Up?* (London: Earthscan).

⁹ Visser, W., Matten, D., and Pohl, M. (2007). *The A to Z of CSR: An International Encyclopaedia of Concepts, Codes, and Organisations*. (London: Wiley).

¹⁰ Elkington (1994)., *op cit*, p. 90.

¹¹ Visser *et al.*, (2007)., *op cit*.

¹² Globescan (2006). *Survey of Sustainability Experts*. (Toronto: Globescan).

¹³ www.globalreporting.org

¹⁴ Andriof, J. and McIntosh, M. (Eds.). (2001). *Perspectives of Corporate Citizenship*. (London: Greenleaf); Gosset, W. (1957). *Corporate Citizenship*. (Lexington, Va.: Washington and Lee University).

¹⁵ Carr, A. (1968). “Is business bluffing ethical?” *Harvard Business Review*, 46: pp. 143-153.

¹⁶ Carroll, A. (1979). “A Three-Dimensional Model of Corporate Performance”. *Academy of Management Review*, 4(4): pp. 497-505.

¹⁷ Freeman, R. (1984). *Management: A Stakeholder Approach*. (Boston: Pitman).

¹⁸ Wheeler, D., Colbert, B. and Freeman, R. (2003). “Focusing on value: Corporate social responsibility, sustainability and a stakeholder approach in a network world”. *Journal of General Management*, 28(3): pp. 1-28.

¹⁹ *Ibid.*, p. 18.

²⁰ Ashrafi, M., Acciaro, M., Walker, T., Magnan, G. and Adams, M. (2019). “Corporate sustainability in Canadian and US maritime ports”. *Journal of Cleaner Production*, pp. 220, 386-397.

²¹ Purkayastha, D. (2019). “In Search of the Triple Bottom line - Case Studies in Corporate Sustainability”. *IBS Case Research Center*. ISBN 978-81-314-2847-4.

²² Ashrafi, M., Adams, M., Walker, T. and Magnan, G. (2018). “How corporate social responsibility can be integrated into corporate sustainability: a theoretical review of their relationships”. *International Journal of Sustainable Development & World Ecology*, 25(8), pp. 672-682; Hirst, S. (2016). “Social Responsibility Resolutions”. *The Harvard Law School Program on Corporate Governance Discussion Paper*. No. 2016-06.

²³ Bansal, P. and DesJardine, M. (2014). “Business sustainability: It is about time”. *Strategic Organisation* 12.1: pp. 70-78.

ability of the future generations to meet their own needs". While within the academic management circles, *Elkington* also develops the concept of TBL, which proposes that business goals are inseparable from the societies and environments within which they operate.²⁴ On this account, it is observed that while short-term economic gains could be pursued, any failure to account for the social and environmental impacts of such pursuits is believed to make those business practices unsustainable. That's why the concept emphasizes that having an engaging environment within the company and community can readily improve performance and increase profits. This can be attained through open communications with the stakeholders characterised by high levels of information disclosure, clarity, and accuracy.²⁵ For this reason, CS is possibly measured through composite indicators that cover the environmental, social, corporate governance, and economic measures - with one way of assessing it being via the *Complex Performance Indicator*.²⁶ That being the case, to discern the substratum, potentials, and challenges of the paradigm shift to CS in the Extractive Industries (EI), the paper is presented in two parts, with the first part dwelling on the substratum of sustainability and CS in the EI - by outlining the historical account and conceptual framework of the sustainability initiatives. While the second part examines the potentials and challenges of implementing CS in the EI - before wrapping up by highlighting the salient points and way forward for CS in the EI that can enhance sustainable development.

I. SUBTRACTUM OF CORPORATE SUSTAINABILITY

From the foregoing, it is worth reiterating that CS is readily linked to the definition of "sustainable development" contained in the *Brundtland Report*. With *Montiel and Delgado-Ceballos* affirming that the Report is the first document that introduced the concept of "sustainable development", by stating that companies have a crucial role in managing the impacts of the population on ecosystems, ecosystem resources, food security, and sustainable economies to reduce the pressure of the society.²⁷ Equally, *Raufflet* adds that the society must set limits to the dynamism and power in this form of production to maintain a balance between the company and the different groups of society.²⁸ In this light, *Baumgartner and Ebner* allude that when sustainable development is incorporated by an organisation, it is called CS, which like sustainable development, contains three basic pillars (economic, ecological and social).²⁹ Besides, some academics identify the concept of CS exclusively in terms of the environmental dimension, while others refer to the social, and environmental issues. Despite this, it is worth noting that a large proportion of academics agree with the definition that covers the economic, social and environmental dimensions.³⁰ As such, an interesting definition of an "ideal" sustainable organisation from a systems perspective describes the organisation as one that will not use natural resources faster than rates of renewal, recycling, or regeneration of those resources.³¹ Thus, the environmental dimension of CS addresses the environmental impacts due to corporate activities. As these impacts are caused by the use of resources and emissions to air, water, or soil, as well as hazardous waste. Equally, the impact on biodiversity and the environmental problems of the product throughout its life cycles are important.³²

Intrinsically, in this contemporary era, it is observed that the links that connect the company with its environment are increasingly talked about – since the company has gradually achieved unprecedented power, with a corresponding rise in responsibility.³³ Especially as the company is regarded as one of the social institutions with enormous power to influence, both positively and negatively the economic, social, and environmental system. Which necessarily implies a greater responsibility for the current and future state of the physical and social system in which it operates. As a consequence, the society requires the company to behave in accordance with this responsibility, in formulating their strategies and policies to make the prosperity of the companies compatible with a sustainable quality of life on a planetary level. That is why organisations must assume such responsibility and begin to behave as "corporate citizens".³⁴ As such, the traditional company must move towards the new business paradigm, by evolving and modifying the way in which they relate to the environment and society. As a company is regarded as sustainable when, in addition to achieving a satisfactory economic performance account and maximising its value, is also viable in the short and long term in contributing to the sustainable development of its environment and our planet, with full respect for individual and collective human rights.³⁵ Since if everything is concentrated only on the fact of generating profits, a reality is generated where the environment and the other dimensions are affected.³⁶ For this reason, a large part of the population believes that the world of business has moved away from society and that the interests of the business world are no longer aligned with the

²⁴ Elkington (1997)., *op cit*.

²⁵ Schnackenberg, A. and Tomlinson, E. (2014). "Organizational Transparency: A New Perspective on Managing Trust in Organization-Stakeholder Relationships". *Journal of Management*. 42 (7): pp. 1784–1810.

²⁶ Dočekalová, M. and Kocmanová, A. (2016). "Composite indicator for measuring corporate sustainability". *Ecological Indicators*. 61: pp. 612–623. [doi:10.1016/j.ecolind.2015.10.012](https://doi.org/10.1016/j.ecolind.2015.10.012).

²⁷ Montiel, I. and Delgado-Ceballos, J. (2014). "Defining and Measuring Corporate Sustainability: Are We There Yet?" *Organisation and Environment*, 27, pp. 113-139.

²⁸ Raufflet, E. (2010). "Responsabilidad corporativa y desarrollo sostenible: una perspectiva histórica y conceptual". *Cuadernos de Administration*, 43, pp. 23-32.

²⁹ Baumgartner, R. and Ebner, D. (2010). "Corporate Sustainability Strategies: Sustainability Profiles and Maturity Levels". *Sustainable Development*, Vol. 18, Issue 2, pp. 76-89.

³⁰ Montiel and Delgado-Ceballos (2014)., *op cit*.

³¹ Marshall, R. and Brown, D. (2003). "The strategy of sustainability: A systems perspective on environmental initiatives". *California Management Review*, Vol. 46, issue 1.

³² Baumgartner and Ebner (2010)., *op cit*.

³³ Raufflet (2010)., *op cit*.

³⁴ Olcese-Santonja, A. (2008), *Manual de la Empresa Responsable y Sostenible*, (McGraw-Hill, Madrid).

³⁵ Artech, F. (2002). «La empresa y el desarrollo sostenible». <http://www.raco.cat>

³⁶ Morgan, A. (2015). Documentary: "The True Cost". https://en.wikipedia.org/wiki/The_True_Cost.

interests of society. On this account, the only way to stop this new wave of anti-business sentiment is that the companies need to take the lead and reposition themselves clearly and convincingly as part of the society.³⁷

In this context, the significance of the four pillars of CS, which are composed of a mixture of sustainable development, CSR, stakeholder theory, and accountability, is considered as a panacea. As CS is viewed as a new and evolving corporate management paradigm, which is a viable alternative to the traditional growth and profit-maximisation model. This is because although CS recognises that corporate growth and profitability are important, it also requires the corporation to pursue societal goals, specifically those relating to sustainable development — environmental protection, social justice and equity, and economic development. From this, the review of the literature affirms that the concept of CS borrows elements from the four major established concepts of sustainability, such as sustainable development, CSR, stakeholder theory, and corporate accountability theory, which are worth discussing.

1) The Dimensions of Sustainable Development

Aptly, sustainable development is a broad, dialectical concept that balances the need for economic growth with environmental protection and social equity. As the term was first popularised in 1987, in “Our Common Future”, a book published by WCED, which describes sustainable development as development that met the needs of the present generations without compromising the ability of the future generations to meet their needs. Or, as described in the book, it is “a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations”. On this account, it is a broad concept because it combines economics, social justice, environmental science and management, business management, politics, and law. Likewise, it is a dialectical concept in that, like justice, democracy, fairness, and other important societal concepts, it defies a concise analytical definition. Since in “Our Common Future”, the WCED recognises that the achievement of sustainable development needs not to be simply left to government regulators and policy makers, as the industries have a significant role to play too. In this sense, it is argued that while corporations have always been the engines for economic development, they need to be more proactive in balancing this drive with social equity and environmental protection, partly because they have been the cause of some of the unsustainable conditions, and because they have access to the resources necessary to address the problems.

Consequently, although the response of the industries to the call of the WCED came in stages as everyone wrestled with what sustainable development in action should look like. With the first serious sign of support having come from the ICC - when it issued its “Business Charter for Sustainable Development” in 1990. This was followed in 1992 by the book “Changing Course” by *Stephen Schmidheiny*, and the BCSO.³⁸ As both publications focus on the role of corporations in sustainable development, with the authors arguing that supporting sustainable development was as much an economic necessity as it was an environmental and social necessity. That being the case, many business leaders and corporations have come forward to show their support for the principles of sustainable development. As such, the contribution of sustainable development to CS is twofold. On the one hand, it helps set out the areas that companies should focus on, that is, environmental, social, and economic performance. While on the other hand, it provides a common societal goal for corporations, governments, and civil society to work toward, that is, ecological, social and economic sustainability. For this reason, it is worth considering these key CS issues in the EI, to appreciate how diversified the extractive companies have responded to such issues. By using, as a starting point, the social, environmental and economic present practices of several large players in the EI. In this vein, it is worth describing the primary sustainability issues that the EI faces - by examining the interrelation of industry-level sustainability, accounting for social, environmental, and economic concerns, with country-level sustainability. With the paper approaching these widely varying practices with a simplified triple bottom lens, since the balance of the three interactions promotes sustainable development.

(a) The environmental dimension focuses on the concern about the impact on the planet. It is about designing productive systems that are capable of using only renewable resources and energy, and not producing waste. As it is evident that economic activities create wealth and social welfare and, therefore, they contribute to increase the quality of life of people. Despite this, it is also true that in many occasions the creation of wealth and welfare occurs in prejudice of a negative impact on the environment, an economic development not sustained over time and an inequality in the distribution of wealth.³⁹ This is because the activities of the extractive companies often result to potential negative environmental impacts. For instance, pollution varies widely depending on the type of material being produced and the specific operation. Thus, among the most pressing environmental concerns for stakeholders are the energy and water use of the extractive companies, and the impact of their extracting activities on biodiversity. That is why even the most innovative extractive firms continue to depend upon the increased amounts of energy generated by coal and petroleum derivatives, whose emissions contribute to global warming and climate change - despite their attempts to improve energy efficiency. In this light, to alleviate the situation, the extractive companies have continued to seek for ways to reduce the emissions of toxic substances like carbon, nitrogen and sulphur dioxides, generated in smelting and combustion processes, as well as the pollution of the air by particles created in handling the ore. Besides, they are also concerned by the production of ozone-depleting substances and fluoride. Since air quality in and near the extractive activities is extremely fragile and must be monitored and maintained at safe levels. In addition, the sustainable use of water also poses a challenge to the EI, as the extractive firms need water to transform ore into metal, which in the case of gold requires the mixing of cyanide in the water that is used for the separation of the metal from the ore, a process called “heap leaching”. What’s more, the companies are challenged by the safe disposal of tailings that ensure – the mixture of wastewater, chemicals and ore left over from the extraction process. As well as they are seeking ways to reverse previously created damage to the existing water supplies from previous bad practices, to ensure that the surrounding communities

³⁷ Raufflet (2010)., *op cit*.

³⁸ Schmidheiny, S. (1992). *Changing Course: A Global Business Perspective on Development and the Environment*. (Cambridge: MIT Press).

³⁹ Artech (2002)., *op cit*.

have safe drinking water. Most importantly, minimising the impacts of the extractive practices on biodiversity is also a major challenge facing the extractive companies in this contemporary era. For instance, when mining companies create new mines, they strip the land of all plant life, destroying animal habitats and threatening the region's biodiversity. As such, the companies are challenged to avoid the harmful impacts on all the lands they own, including avoiding unnecessary disturbance, use changes, and removal of habitats. Thus, more recently, efforts have been made to account for environmental practices throughout the supply chain. As the companies and their suppliers are encouraged, wherever possible, to use eco-efficient and sustainable products, to recycle and avoid the use of toxic products.

(b) The social dimension refers to the concern for social equality and the rights of the workers. It is about avoiding precarious contracts with very low salaries. It also means changing abuses of power by developed countries over those that are in the process of development. As such, the EI is seeking to meet the challenges regarding the safety of the worker and community, stakeholder engagement, HIV/AIDS reduction, policies for the life cycles of the extractive operations, and human rights. As such, since the health and safety of the workers is a major challenge to the extractive companies; many leading companies are currently implementing standards for employee safety, including occupational safety training, protective gear, and health care. Of particular concern in the industry is the prevalence of HIV/AIDS and other endemic diseases, such as malaria in extractive communities, especially for companies with operations in sub-Saharan Africa. This is because these diseases have not only damages the health of the community member but has also diminished the workforce, thus, reducing the productivity of the existing workforce. Moreover, with respect to labour practices, the extractive companies are faced with several challenges, which in addition to hiring and retaining quality employees, the companies are required to create opportunities for the education and advancement of their workers; and encouraged to hire a diverse workforce, including employing and encouraging the advancement of women. In addition, they are challenged to make the workplace safer and more worker-friendly, to provide grievance mechanisms, and communicate more productively with the workers and their representatives and/or unions. Essentially, human rights have also been a subject of concern for the extractive companies and organisations that track them. With some companies having responded with comprehensive human rights strategies and programmes like non-discrimination and freedom of association; and policies against child labour, and forced or compulsory labour. Equally, several companies are seeking ways to develop the communities that surround their operations, largely in response to claims that the EI have deleterious effects on the communities. With most of these companies having implemented detailed plans for generating community income, and improving community access to services, social infrastructure, capital, and facilitate access to education and skills training in the communities where they work. Indeed, compounding these social concerns are the remediation of the surrounding economy after the closure of the extractive activities. As the compensation of the original land holders and communities is another polemical subject for the extractive companies. That is why when companies choose to develop a site, the objective is to provide an equitable settlement to displaced persons without a heavy economic burden. However, in cases where the companies are operating in the UNESCO World Heritage sites or native lands without the consent of the residents, or have not met the demands for compensation of the residents, can lead to vigorous opposition from the surrounding community, as well as negative environmental impacts. As such, the extractive companies are expected to work to preserve indigenous culture and heritage, particularly as many mines are located in areas with the indigenous peoples – who have expressed numerous concerns about how the extractive companies are fundamentally changing their socio-cultural practices.

(c) The economic dimension is based on concern for economic viability. With the objective being to go towards a more responsible consumption, given that we are in a society of materialism that responds to the pressures of a disposable consumption. As such, there have been claims that the extractive companies do not operate in ways that will provide them with long-term economic sustainability. For instance, by operating irresponsibly in the social and environmental spheres, the extractive companies can undermine trust in their organisations. With such mistrust diminishing the trust of the investors in the companies, thus, damaging their reputations, and harming their investment potential. Thus, to maintain economic sustainability, various factors must be taken into account, such as net sales, payments and debts, and others which also need to be noted. Of particular interest are investments in the public sector and payments made to governments. In this vein, the extractive companies are challenged to contribute to the sustainable growth of the communities in which they operate by leaving behind institutions and infrastructure that will support the community beyond the life cycle of the extraction. That is why the companies are encouraged to identify sites where local economic development is of particular significance and interest to the stakeholders, outline policies with respect to assessing this contribution, to invest in these institutions and infrastructure. In addition, companies are advised to draw goods, materials, and services from local communities. Equally, to curtail bribery and other illegal payments, the companies are strongly encouraged to account for and divulge all taxes of all types paid in all operations. Donations, similarly, may be counted and disclosed. As a number of initiatives have begun to press governments and companies to disclose all payments. With several groups currently having interest in the sums paid for land concessions or paid in taxes, particularly because of the numerous opportunities for corruption, and to monitor the ways that revenue reaches (or does not reach) other sectors of the host community. Despite this, it is observed that sustainable development by itself does not provide the necessary arguments for why companies should care about these issues. However, such arguments can be deduce from CSR and the stakeholder theory.

2) The Precept of Corporate Social Responsibility

Correspondingly, like sustainable development, CSR is also a broad, dialectical concept. As it generally deals with the role of business in society. With its basic premise being that corporate managers have an ethical obligation to consider and address the needs of the society, not just to act solely in the interests of the shareholders or their own self-interest. As such, in many ways, CSR can be considered a debate, since what is often in question is not whether corporate managers have an obligation to consider the needs of society, but the extent to which they should consider these needs. Since the concept of CSR has been around much longer

than sustainable development or the other concepts discussed in this paper.⁴⁰ As such, it is worth noting that the role of business in society has been debated ever since. With *Archie Carroll*, one of the most prolific authors on CSR, affirming that the modern era of CSR began with the publication of the book “*Social Responsibilities of the Businessman*” by *Howard Bowen* in 1953. Since then, many authors have written on the topic. Although for the first few decades after 1953, the main focus of such writings was whether corporate managers had an ethical responsibility to consider the needs of the society. A position that was finally settled by 1980, when it was generally agreed that corporate managers have this ethical responsibility, thus, bringing to lamplight the concept of CSR in practice.

In this regard, the arguments in favour of corporate managers having an ethical responsibility to society is drawn from the following four philosophical theories. Firstly, ‘*the social contract theory*’, whose central tenet is that the society consists of a series of explicit and implicit contracts between individuals, organisations, and institutions. With such contracts evolving to enable that the exchanges between the parties are made in an environment of trust and harmony. Therefore, as per the theory, corporations, as organisations, enter into these contracts with other members of the society, and receive resources, goods, and societal approval to operate in exchange for good behaviour. Secondly, ‘*the social justice theory*’, which is a variation of the social contract theory, focuses on fairness and distributive justice, that is, how and according to what principles, the goods of the society (wealth, power, and other intangibles) are distributed amongst its members. With the proponents of the social justice theory arguing that a fair society is one in which the needs of all members of the society are considered, not just those with power and wealth. As such, corporate managers need to consider how these goods can be most appropriately distributed in society. Thirdly, ‘*The rights theory*’, which is concerned with the meaning of rights, including basic human rights and property rights. On this account, under the theory, it is argued that property rights should not override human rights. Thus, from a CSR perspective, this would mean that while the shareholders of a corporation have certain property rights, this does not give them licence to override the basic human rights of other stakeholders like the employees, local community, etc. And fourthly, ‘*the deontological theory*’, which deals with the belief that everyone, including corporate managers, has a moral duty to treat everyone else with respect, including listening and considering their needs. This is sometimes referred to as the “Golden Rule”. In this vein, CSR contributes to CS by providing ethical arguments as to why corporate managers should work toward sustainable development. As such, if the society in general believes that sustainable development is a worthwhile goal, then the corporations have an ethical obligation to help the society move in that direction.

3) The Premise of the Stakeholder Theory

Explicitly, the stakeholder theory is short for the “stakeholder theory of the firm”. Which is a relatively modern concept first popularised by *Freeman*, who defined a stakeholder as “any group or individual who can affect or is affected by the achievement of the objectives of an organisation”.⁴¹ As such, the basic premise of the stakeholder theory is that the stronger your relationships are with other external parties, the easier it will be to meet your corporate business objectives; while the worse your relationships, the harder it will be. Indeed, the strong relationships with stakeholders are those based on trust, respect, and cooperation. Unlike CSR, which is largely a philosophical concept, the stakeholder theory was originally, and is still primarily, a strategic management concept. With its goal being to help corporations strengthen their relationships with the external groups in order to develop a competitive advantage. Despite this, it is worth noting that one of the first challenges for companies is to identify their stakeholders. That being the case, there appears to be a general agreement among companies that the following groups should be considered as stakeholders — shareholders and investors, employees, customers, and suppliers. Beyond these, however, it becomes more challenging because there are no clear criteria for defining stakeholders. In this light, most authors agree that if the term ‘stakeholder’ is to be meaningful, there should be some way of separating stakeholders from non-stakeholders. With some of them having suggested that stakeholders are those that have a stake in the activities of the company – something at risk. While others suggest that if one considers the global impacts of the industry – such as climate change or cultural changes due to marketing and advertising – everyone is a stakeholder. On this account, the issue of the qualifying criteria for the stakeholder status is currently being debated. Especially even if the main stakeholders have been identified, the next challenge for the corporate managers is to develop strategies to deal with them. Which is very challenging as different stakeholder groups can, and often do, have different goals, priorities, and demands. For instance, the shareholders and investors may want optimum return on their investments; employees - safe workplaces, competitive salaries and job security; customers - quality goods and services at fair prices; local communities - community investment; and regulators - full compliance with applicable regulations. From these, it is crystal clear that the goals of economic stability, environmental protection, and social justice are common across many of the stakeholder groups. Although few groups still argue against such goals, as they debate the level of priority or urgency. For this reason, the contribution of the stakeholder theory to CS is the addition of business arguments as to why companies should work toward sustainable development. Since the stakeholder theory suggests that it is in the company’s best economic interest to work in this direction because doing so will strengthen its relationship with the stakeholders, which in turn will help the company meet its business objectives.

4) The Impact of Corporate Accountability and Governance

(a) **The scope of corporate accountability** focuses on the legal or ethical responsibility to provide an account or reckoning of the actions for which one is held responsible. As such, it is the fourth and final concept underlying CS. However, it is worth noting that accountability differs from responsibility – as the latter refers to one’s duty to act in a certain way, whereas the former refers to one’s duty to explain, justify, or report on his or her actions. On this account, in the corporate world, although there are several different accountability relationships, the most significant one is the relationship between the corporate management and

⁴⁰ With a 1973 article by Nicholas Ebberstadt having traced the history of CSR back to ancient Greece, when governing bodies set out rules of conduct for businessmen and merchants. See Ebberstadt, N. (1977). *Managing Corporate Social Responsibility*, (Little, Brown and Company).

⁴¹ Freeman, E. (1984). *Strategic Management: A Stakeholder Approach*. (Pitman Books, Boston, Mass).

shareholders. Which is based on the fiduciary model that in turn is based on the agency theory and agency law, wherein the corporate management is the 'agent' and the shareholders the 'principal'. This relationship can be viewed as a contract in which the principal entrusts the agent with capital and the agent is responsible for using that capital in the principal's best interest. With the agent being held accountable by the principal for how that capital is used and the return on the investment. As such, corporate accountability need not be restricted to the traditional fiduciary model, nor only to the relationship between the corporate management and shareholders. Since corporations also enter into contracts (both explicit and implicit) with other stakeholder groups as a matter of their daily business, and these contractual arrangements can serve as the basis for accountability relationships. For instance, corporations that receive environmental permits and approvals from regulators to operate facilities are often held accountable by the regulators for whether the terms of the approval are being met. With proponents of the social contract theory often arguing that corporations are given a 'licence to operate' by society in exchange for good behaviour, thus, the corporations should be accountable to the society for their performance.

In this connection, it is observed that the contribution of the corporate accountability theory to CS is that it helps define the nature of the relationship between the corporate managers and the rest of society. As it also sets out the arguments as to why companies should report on their environmental, social, and economic performance, not just financial performance. For this reason, *John Elkington* calls this type of accounting on environmental, social, and economic performance as the 'triple bottom line' reporting.⁴² From this perspective, CS is considered as a new and evolving corporate management paradigm. Since although the concept acknowledges the need for profitability, it differs from the traditional growth and profit-maximisation model in that it places a much greater emphasis on environmental, social, and economic performance, and the public reporting on such performance. In this light, it is worth reiterating that CS borrows elements from the following four other sustainability concepts. With sustainable development setting out the performance areas that corporations should focus on, thus, contributing the vision and societal goals that the corporation should work toward, namely environmental protection, social justice and equity, and economic development. While CSR contributes ethical arguments, and the stakeholder theory provides the business arguments as to why corporations should work towards these goals. And corporate accountability providing the rationale as to why corporations should report to society on their performance in these areas. Despite these, it is worth noting that not all corporations currently subscribe to the principles of CS, and it is unlikely that all will, at least not voluntarily. Even though a significant number of corporations have made public commitments to environmental protection, social justice and equity, and economic development. A trend that will be reinforced if the shareholders and other stakeholders support and reward corporations that conduct their operations in the spirit of sustainability. As such, the extractive companies must commit to the principle of CS so as not to risk losing their 'social license to operate'. Since any failure on their part to recognise that they are accountable to their stakeholders, can lead them to lose their ability to operate if they do not adequately address the concerns of the stakeholders.

(b) The tenet of corporate sustainability governance gains its prominence since the 'Earth Summit' in Rio de Janeiro in 1992, and its resulting action plan *Agenda 21*, whereby the sustainability issues move from the fringe to the mainstream. With the working definition of sustainability being deduced from the three pillars (economic, environmental, and social) of the sustainable development discussed at the Summit;⁴³ often referred to as the TBL, in which each of the three pillars must function properly to maintain the overall wellbeing of the business - as sustainable practices are considered as the driving force for industry growth and means for minimising risk. But more recently, the concept of "TBL plus one" has been adopted, thus, adding governance to the list of key factors. With a greater understanding that sustainable business practices are good for the bottom line, as well as for the society and environment, as companies are now seeking new ways to improve their practices. Since many chief executive officers (CEOs) have found that criticism of the poor social and environmental practices of their companies have harmed their bottom line.⁴⁴ As such, businesses are attempting to move from solving problems *after* they occur to pre-empting these problems or, in the case of industry leaders, seeking to create productive long-term community relationships and generate environmental benefits while maximising their profits. Equally, in addition to these company-based initiatives, external efforts are made by non-governmental organisations (NGOs) and other organisations to make practices and payments transparent.

From this perspective, it is worth reiterating that the initiatives supporting sustainability in the EI were an outgrowth of broader efforts in CSR and sustainable development. Especially as the two early attempts to improve the industry-wide sustainability practices were undertaken by the UN Department of Economic and Social Development, the Sustainable Development Division, and the UN Environment Programme (UNEP) – which issued the 1994 Berlin Guidelines and the 1999 Berlin II Guidelines. With these pilot guidelines and their updated successors having provided the general guidance for sustainable management in the EI. As the guidelines address the following at all stages of the extractive operation: Mining and sustainable development, regulation, environmental management, voluntary undertakings, community development, and artisanal mining. As such, the earliest large-scale industry-based effort to establish sustainability practices in the EI was in 1998, when the Global Mining Initiative (GMI) was launched by the CEOs of nine of the largest mining and metals companies.⁴⁵ With its goals being to create an industry association that would focus on sustainable development in the mining, metals and minerals sectors; an independent analysis of the key issues facing these industries; and a conference on mining, metals and sustainable development. On this account, this initiative spawns the

⁴² Elkington, J. (1998). *Cannibals with Forks: The Triple-Bottom Line of 20th Century Business*, (Gabriola Island, BC: New Society Publishers).

⁴³ *Breaking New Ground: The Report of the Mining, Minerals and Sustainable Development Project*. (London: Earthscan Publications Ltd.), 2002, p. 19.

⁴⁴ See *Walking the Talk*, pp. 20-21.

⁴⁵ The participating companies were: Anglo American, BHP Billiton, Codelco, Newmont, Noranda, Phelps Dodge, Placer Dome, Rio Tinto, WMC Limited.

Mining, Minerals and Sustainable Development (MMSD)⁴⁶ project in 2000, the International Council on Mining and Metals (ICMM) in 2001, and a global conference in May 2002. With the MMSD beginning as “an independent two-year process of consultation and research aimed at understanding how to maximise the contribution of the mining and minerals sector to sustainable development at the global, national, regional and local levels”. Which is managed by the International Institute for Environment and Development (IIED), with its watershed report on sustainable mining, *‘Breaking New Ground’*, published in 2002 - which presents the main findings of the MMSD’s research, analysis, and stakeholder engagement process. Equally, the report was also used as the template for future ICMM activities. As the ICMM develops key principles that corporations must implement to become members.⁴⁷ With the ICMM composed of 15 of the largest mining and metal companies, and 24 national mining and global commodities associations - with its goal of drafting the principles being to advance the agenda defined by the MMSD. As the principles were developed by benchmarking against other leading global standards.⁴⁸ What’s more, in addition to following the principles, ICMM called for public reporting, independent assurance, and “sharing good practice”.⁴⁹

That being the case, in 2002, the GRI published the Sustainability Reporting Guidelines, a model for sustainability reporting used across sectors. As such, the Mining and Metals Sector Supplement to these Guidelines was published two years later in a cooperative effort of ICMM and GRI. With the pilot version developed by a multi-stakeholder working group consisting of ten industry representatives and ten representatives from the industry’s stakeholders including investors, labour organisations, the World Bank Group, and environmental and social development NGOs like Oxfam International, World Wildlife Fund and the IUCN Southern Africa Programme.⁵⁰ On this base, the Guidelines and Supplement provide the basis for ICMM members to report their economic, environmental, human rights, and social performance according to the principles of the organisation – as they include specific performance indicators as well as principles for good reporting like completeness and materiality. As such, the 16 corporate members of ICMM by the end of 2007⁵¹ have sought to report as per the GRI 2002 Sustainability Reporting Guidelines and Sector Supplement. Moreover, another watershed initiative is the 2002 Toronto Declaration. Which was conceived at the GMI conference that year, outlining the potential industry programmes, including transparency initiatives, creating an emergency response register for the sector, partnerships with the World Bank, and creation of community development management tools. With all ICMM members having adopted it, and also made a significant pledge⁵² in 2003 not to mine in or near World Heritage Sites. On this account, this suggests a noteworthy commitment to both the preservation of cultural heritage and biodiversity. Especially as many stakeholders are calling for greater transparency in the industry as a way to ameliorate the “Resource Curse” rein in corruption, and for a more equitable distribution of resource-derived profit.⁵³

In this line of thought, the World Bank created the Extractive Industries Review (EIR) in 2000, which is a comprehensive review of its investments in the mining industry. With the EIR having concluded in its 2003 report that mining investments can contribute to sustainable development, with the World Bank to further track poverty reduction, public governance, stakeholder inclusion, revenue management, and renewable energy use. Besides, the report argued that the mining companies and countries where these companies operate need to “have pro-poor governance, effective social and environmental policies, and respect for human rights”.⁵⁴ In this vein, the Resource Endowment Initiative (REI) aims to follow up on the EIR, by identifying policy actions, practices, and partnerships to improve socio-economic outcomes in the mining sector. As such, since 2004, its research has identified the underlying reasons for national and community successes and has determined practical lessons for companies, governments and other stakeholders. In addition, the Extractive Industries Transparency Initiative (EITI), founded in 2003, agreed to support improved governance in resource-rich countries through transparency, verification of company payments, and government revenues from the EI. With the EITI being supported by an International Secretariat based in the UK’s Department for International Development, and works closely with the World Bank and the IMF. Equally, another transparency initiative, “the Publish What You Pay Coalition”, calls for obligatory disclosure of payments made by oil, gas and mining companies to governments for the extraction of natural resources. As a result, for companies, being sustainable is a way to promote their responsibility to society and the environment to obtain a competitive advantage in the market. In order to show evidence of companies’ achievement in environmental management and sustainability, companies often verify sustainable manufacturing practices through third parties like the ISO 14000 standard. Since the verification of ISO 14000 certification implies that companies

⁴⁶ MMSD was managed by the International Institute for Environment and Development (IIED), under contract to the World Business Council for Sustainable Development (WBCSD).

⁴⁷ See http://www.icmm.com/icmm_principles.php (accessed 13 February 2007).

⁴⁸ These include: the 1992 Rio Declaration, the Global Reporting Initiative, the OECD Guidelines for Multinational Enterprises, the World Bank Operational Policies, the OECD Convention on Combating Bribery, ILO Conventions 98, 169, 176, and the Voluntary Principles on Human Rights and Security. See http://www.icmm.com/icmm_principles.php.

⁴⁹ See http://www.icmm.com/icmm_principles.php.

⁵⁰ See http://icmm.com/sd_reporting.php.

⁵¹ *Annual Review 2007* London: International Council on Mining and Metals, 2008.

⁵² A pledge resulting from a dialogue process with “The World Conservation Union” and UNESCO’s World Heritage Centre, which includes an agreement to work with partners to enhance the industry’s contribution to biodiversity conservation, in and around protected areas.

⁵³ For a complete discussion of the subject, see Stiglitz, J. (2006). “What is the Role of the State?” paper prepared for the Resource Curse task force of the Initiative for Policy Dialogue.

⁵⁴ Described in Baue, W. (2004). “Social Investors Urge World Bank to Adopt Extractive Industries Review Proposals,” *SocialFunds.com*, 23 March.

have established their operations related to the environment and workflows in their manufacturing processes.⁵⁵ Although Global Witness, Oxfam, Transparency International, and several NGOs contend that properly managed extraction revenues should serve as a basis for poverty reduction, economic growth and development. As such, most recently, the Council for Responsible Jewellery Practices was founded with the goal of promoting responsible business practices within the gold jewelry and diamond supply chain.

Notwithstanding, in addition to efforts undertaken by the extractive companies, the level of governance of a State plays a significant role in creating sustainable wealth in areas where the extractive companies operate. This is particularly crucial in the developing world⁵⁶ - where taxing, regulation, transparency, and external auditing can mitigate the risks of negative long term consequences. As mining, for instance, is considered to be linked to the so-called “Resource Curse” thesis, which suggests that States with vast mineral wealth “tend to have lower growth rates, more debt, worse governance, and greater political unrest than their ... neighbours”.⁵⁷ Which is especially true in smaller countries where the greater portion of their GDP is generated from the EI, as these deleterious effects are most apparent in States dependent on the extraction of a single mineral. In this vein, *Michael Ross* avers that oil and mineral dependent States tend to suffer from unusually high rates of corruption, more frequently have authoritarian and ineffective governments, higher military spending, and are disproportionately affected by civil war.⁵⁸ As such, mining has also been held responsible for the “Dutch Disease” - a theoretical phenomenon in which massive amount of capital are invested in the mining sector at the expense of developing other sectors of the economy. Which might lead to the rise in exchange rate, thus, increasing imports and decreasing exports, making the manufacturing and agricultural sectors less competitive. On this base, mining appears to create sustained wealth in the developing world or can increase wealth disparity and deepen poverty.⁵⁹ Although *Michael Ross* reiterates that the overall standards of living in mineral dependent countries are extremely low — lower than their per capita incomes. As he finds a strong correlation between higher levels of mineral dependence and higher poverty rates, by noting that mineral dependent States tend to suffer from exceptionally high rates of child mortality, low life expectancy, and income inequality. Moreover, he also notes that mineral dependent States are highly vulnerable to economic shocks.⁶⁰ On this account, the relationship between public and corporate governance in relation to the EI is significant and divisive. Although some groups have called for increased governmental regulation of the EI, while others are advocating for companies to adopt proactive measures to avoid any burdensome external regulation.

II POTENTIALS AND CHALLENGES OF IMPLEMENTING CORPORATE SUSTAINABILITY IN THE EXTRACTIVE INDUSTRY

Intrinsically, the extractive companies have a great potential to generate significant income for their shareholders and the communities where they operate. Since in a capital-intensive industry like the EI, the extractive companies expect that high investments will yield significant returns, and great opportunities to generate wealth for the communities where they operate. For this reason, the potential benefits of CS in the EI is great despite some challenges.

1) The Potential Benefits of Corporate Sustainability

Cogently, by creating employment on a large scale and generating a product that is processed and sold at a profit, the extractive companies often offer the communities credible possibilities for economic development and their related social benefits. Especially as a recent World Bank study provides that the financial sector is increasingly responding to the so-called “sustainability risks”. Since the study affirms that social and ethical factors are increasingly a part of the assessment of the investors of their investments – as shareholders are considering the significance of the factors, fund managers are increasingly divesting or selling shares because of external pressures. Equally, the study also concludes that companies rated for their sustainability practice by indexes like the Dow Jones Sustainability Index, deliver better returns than others.⁶¹ Despite this, it is observed that most extractive companies often work in areas where their practices cannot be easily audited, although they are still subject to public scrutiny. Especially as organisations like Oxfam and Earthworks, among others are closely monitoring the EI, and publishing accounts and scholarly reports on their websites.

Notwithstanding, it is worth noting that rather than pretend that this is not a reality, the extractive companies can benefit from publicising their corporate transparency. As such, in addition to recent attention to the transparency of individual corporations, there have also been substantial efforts to encourage transparency in dealing between corporations and their host governments. On this account, the expanding coverage in the mainstream press of “sustainability issues” has become part of the *lingua franca*, as average citizens are now sensitive to the activities of the corporations, and are keen to judge them. As extractive companies that do not adopt a sustainability agenda are increasingly vulnerable to accusations of poor sustainability practices, and increasingly so if they have a large market share. That being the case, since the effects of such negative public perception are deleterious, they are working hard to avoid them. With the most prudent course being to adopt an aggressive sustainability agenda at the outset. This is because rather than approach the sustainability initiatives with apprehension or contempt, businesses are often advised to seek innovative means to become sustainability leaders. In this vein, the extractive companies need to develop sustainable practices to protect and augment their earnings. As such soundest strategy can pursue a comprehensive sustainability agenda immediately to

⁵⁵ Shen, B. (2014). “Sustainable Fashion Supply Chain: Lessons from H&M”. <https://www.mdpi.com/2071-1050/6/9/6236/htm>

⁵⁶ Stiglitz (2006), *op cit*.

⁵⁷ Richter, A. and Svetlana, T. (2003). “Making Sure the Money Goes Where It's Supposed To,” *New York Times*, 4 December.

⁵⁸ Ross, M. (2001). *Extractive Sectors and the Poor: An Oxfam America Report*. (Boston, MA: Oxfam America).

⁵⁹ Power, M. (2002). *Digging to Development? A Historical Look at Mining and Economic Development: An Oxfam America Report*. Boston. (MA: Oxfam America).

⁶⁰ Ross (2001), *op cit*.

⁶¹ Weber-Fahr, M. (2001). “Mining, Sustainability and Risk: World Bank Group Experiences”. *Toronto: World Bank Group/PDAC*, p. 21; see SAM Research Corporate Sustainability Assessment Questionnaire, MNX, 2007.

see returns both in the short and long term. Since rather than diminishing from the bottom line of the companies, sustainability practices will add value to the companies and ensure their “social license to operate”. That is why in the past, extractive companies have been challenged for their negative impacts on the communities where they operate, although such practices are changing. Especially as natural resource wealth can be a vehicle for creating sustainable economic growth that can contribute to sustainable development and poverty reduction⁶², leading extractive companies being aware of this, are currently directing their practices toward these ends.

In this context, defining the drivers and benefits of CS is very helpful towards the decision-making process concerning sustainable actions. As sustainability has been recognised by several authors for positive environmental, social, and even financial impacts - with *Epstein* having illustrated its four main drivers as:⁶³ (a) ‘Government regulations’ that require the industries to follow several sustainability practices under non-compliance penalties and fines, additional inspections, and potential closure of operations; (b) ‘community relations’ that involves gaining the trust of the general public and NGO to foster the reputation of the company through applying CS practices - with the latter additionally cultivating the positive relationships of stakeholders towards the organisation. As CS can make the companies gain more competitive advantage through relationships and commitment of the stakeholders to the sustainability causes. Since customers can provide this advantage through their loyalty, as they can favour buying sustainable products and boycott those that have negative social and environmental impacts. While the employees can foster the operations of the company if they feel committed to the sustainable cause; (c) ‘cost and revenue imperatives’, as good reputation increases sales and revenues, regulatory costs are decreased. Since companies with strong environmental performance have lower costs related to environmental penalties, fines and legal fees,⁶⁴ which can take important proportions and lead sometimes to lawsuits; and (d) ‘societal and moral obligations’ that have led some executives driven by ethical obligations to include sustainability precepts in their strategies. In addition, *Epstein* provides the benefits relating to CS, by dividing them into market and non-market impacts.⁶⁵ With the market benefits including: (i) Quality and reputation, since increased prices and demand leads to increase in sales. As increased trust from the shareholders who value sustainability performance in their investments; (ii) Financial benefits like less operating and capital costs, increased revenues and stock market premiums, increased efficiency; (iii) Operational benefits like process innovation, productivity gains, reduced cycle times and waste, better resource yields; and (iv) Organisational benefits, such as better stakeholder relationships, less regulatory interventions and employee satisfaction. While the non-market benefits encompass increased lifespan and quality of life, availability of greater species diversity and cleaner environment including waters.⁶⁶

2) The Challenges of Implementing Corporate Sustainability

Conversely, despite of its benefits, it is originally more challenging to implement CS strategies than most common business strategies - because non-sustainable strategies tend to have a less complex set of goals and targets.⁶⁷ Especially as managers are often careful with resource allocation when it comes to CS⁶⁸, since they are interested by and pressured for short-term earnings. As such, it is often unclear how to make trade-offs.⁶⁹ In this light, the findings of a case study by *Engert and Baumgartner* show that great challenges in the implementation lie in deficiencies in organisational structure, organisational culture, management systems, employee behaviour, and leadership.⁷⁰ Which are worth examining below.

(a) The scope of the socio-environmental and financial balance: The implementation of CS is fundamentally different than other strategies in an organisation. That is why in profit-oriented organisations, for operating goals - the target is increased profit; while for innovation goals - the aim is to surprise the market by attracting more financial benefits - since sustainability encompasses achieving excellence in social, environmental, and financial performance simultaneously.⁷¹ Equally, *Ng and Ow* also emphasize that sustainability is about finding a way to satisfy and harmonise all the three dimensions, although there is an overarching challenge to meet the “three bottom line”.⁷² With the economic dimension identified as the most challenging to integrate CS. Likewise, *Epstein and Buhovac* point out that the implementation of CS in the day-to-day operations is challenging because of the pressure that cross organisation managers have for short-term earnings.⁷³ A view confirmed by *Yuen and Lim*, who characterise top management as myopic, whose goal is mostly to maximise short-term profits, where sustainability often entails short-term costs and long-run return.⁷⁴ From this, it is observed that as much as managers can acknowledge the importance of sustainable operations,

⁶² See <http://www.eitransparency.org/section/abouteiti/principlescriteria>.

⁶³ Epstein, M. (2008). *Making sustainability work*. Greenleaf publishing. (Sheffield, UK), p. 252.

⁶⁴ *Ibid.*, p. 55.

⁶⁵ *Ibid.*, pp. 145-252.

⁶⁶ *Ibid.*, p. 54.

⁶⁷ Epstein, M. and Buhovac, A. (2010). “Solving the sustainability implementation challenge”. *Organisational Dynamics*, 39(4), pp. 306–315. <https://doi.org/10.1016/j.orgdyn.2010.07.003>

⁶⁸ Yuen, K., and Lim, J. (2016). “Barriers to the Implementation of Strategic Corporate Social Responsibility in Shipping”. *Asian Journal of Shipping and logistics*; Epstein and Buhovac (2010)., *op cit*.

⁶⁹ Epstein, M. (2008). *Making sustainability work*. Greenleaf publishing. (Sheffield, UK), p. 252.

⁷⁰ Engert, S. and Baumgartner, R. (2016). “Corporate sustainability strategy. Bridging the gap between formulation and implementation”. *Journal of Cleaner Production*. <https://doi.org/10.1016/j.jclepro.2015.11.094>.

⁷¹ Epstein and Buhovac (2010)., *op cit*.

⁷² Ng, P., and Ow, Y. (2017). *The Design Process and Analysis of an Innovative Umbrella*. (Lap Lambert Academic Publishing), p. 11.

⁷³ Epstein and Buhovac (2010)., *op cit*.

⁷⁴ Yuen and Lim (2016)., *op cit*.

they are less unanimous regarding its financial benefits.⁷⁵ Which is, however, challenging to implement since the business unit managers are commonly informed by the CEO about the importance of sustainability, although they still receive daily orders to increase profitability as their bonuses are typically based on profits.⁷⁶ On this base, it is difficult to evaluate the trade-offs between sustainability and financial performance when excellence in both is expected. That being the case, one can conveniently argue that despite the targeted sustainable goals and strategies of the corporation, the managers can fail to implement those at their operational level because of the contrast with scoring fast economic returns. On this account, to resolve such problems, *Epstein* suggests that corporations should use sustainability processes and systems to learn how to make the trade-offs and make the challenging managerial decisions.⁷⁷ In spite of this, it is observed that the availability of resources for sustainability investments are an important constraint. With *Eipstein and Buhovac*, in their analysis on the challenges related to implementing sustainability, having averred that the amount of financial and human resources allocated to sustainability will significantly impact the ability to implement sustainability programmes.⁷⁸ A line of reasoning that follows the approach of *Yuen and Lim*, which reveal that the lack of resources acts against the good execution of CS.⁷⁹ In this light, *Wüstenhagen et al* identify the three dimensions of social acceptance to be: Market acceptance, socio-political acceptance, and community acceptance (associated with procedural justice, distributive justice, and trust).⁸⁰

(b) The impact of the organisational structure: The organisational structure significantly influences the implementation of strategies⁸¹ - since it can be either welcoming or resisting. As such, the organisational design affects the success of sustainability performance,⁸² which depends on the type of corporation can impact the integration of CS. Thus, on the one hand, the size, scope, and organisation of the corporation are some of those influential structures.⁸³ Thus, with respect to making CS decisions, some corporations often delegate full-time responsibility to one leader, while others divide the responsibility among several departments and individuals.⁸⁴ Nevertheless, although the best alternatives depend on the type, size, and complexity of the corporation. But what is becoming more common is that corporations are delegating to senior executives the role to exclusively focus on environmental and social responsibility, and report directly to the CEO.⁸⁵ However, *Epstein* specifies that for successful CS implementation, the corporations need to build additional organisational capacity through distributed leadership because sustainable actions are more difficult to specify.⁸⁶ This is because, on the other hand, corporate decisions regarding the sustainable practices is increasing in complexity as the geographical diversity of the corporation is decreasing. As the diversified locations entail different cultures, local laws and regulations, global sustainability standards, particular business needs and so on. As a consequence, multinational corporations are faced with greater complexity for CS integration.⁸⁷ Despite this, it is observed that a structure involving third party involvement or outsourcing can help an organisation towards a change in business processes for sustainability. Although organisational inertia and ingrained business processes can make the sustainability integration and the change more difficult.⁸⁸

(c) The impetus of corporate culture and NGOs pressure: For there to be a proper implementation of CS, the corporation must build an organisational culture that assists its employees in that domain. As it is argued that an essential condition for the success of integrating CS strategies in the operations is the existing organisational culture in place.⁸⁹ With *Epstein* reiterating that having an adequate “informal” system of support helps CS execution;⁹⁰ as these informal systems include mission, culture and people. As such, since the cultural hierarchy in place influences the ways the employees are working. Then a top-down organisation, for example, often hinder the execution of sustainability in everyday operations in the workplace.⁹¹ Although these can be improved if more autonomy and authority in the tasks are given to the employees. That is why previous studies in Vattenfall showed that employees do have an ethical will, but think that the hierarchy of the workplace does not allow them to fulfil their eco-ethical

⁷⁵ Xiao, Z., Li, D., Zhou, L, and Huo, W. (2017). “Interdisciplinary studies of solar activity and climate change”. *Atmospheric and Oceanic Science Letters*, pp. 325-328.

⁷⁶ Epstein (2008)., *op cit*.

⁷⁷ *Ibid.*, p. 252.

⁷⁸ Epsten and Buhovac (2010)., *op cit*.

⁷⁹ Yuen and Lim (2016)., *op cit*.

⁸⁰ Wüstenhagen, R., Wolsink, M. and Bürer, M. (2007). “Social acceptance of renewable energy innovation: an introduction to the concept”. *Energy Policy*, 35 (5). pp. 2683-2691.

⁸¹ Waribugo, S. and Ekom Etim, A. (2016). “The Impact of Structure on Strategy Implementation among Telecommunication Firms in Nigeria”. *European Journal of Business and Management*. Vol.8, No.14.

⁸² Epstein (2008)., *op cit.*, p. 254.

⁸³ Engert, S., Rauter, R. and Baumgartner, R. (2015). “Exploring the integration of corporate sustainability into strategic management: A literature review”. *Journal of cleaner production*. Vol 112, Part 4, pp. 2833-2850.

⁸⁴ Epstein (2008)., *op cit*.

⁸⁵ *Ibid.*

⁸⁶ Epstein (2008)., *op cit.*, p.253.

⁸⁷ *Ibid.*

⁸⁸ *Ibid.*

⁸⁹ Baumgartner, R. (2014). “Managing corporate sustainability and CSR: a conceptual framework combining values, strategies and instruments contributing to sustainable development”. *Corp. Soc. Responsib. Environ. Manag.* 21 (No. 5); Linnenluecke, M. and Griffith, A. (2009). “Corporate sustainability and organizational culture”. *Journal of World Business* 45, pp. 357–366.

⁹⁰ Epstein (2008)., *op cit.*, p.253.

⁹¹ Skoglund, A. Böhm, S. (2015). “Wind Power Activism: Epistemic struggles in the formation of eco-ethical selves at Vattenfall”. In *Towards a Cultural Politics of Climate Change*, (Cambridge), pp. 161-173.

mind.⁹² In addition, *Morshed and Asami* note that companies are often divided between the political interests and pressure to reach what are perceived to be profitable economic activities, as well as the pressure of the NGO for more sustainable operations and further consideration of the social and environmental impact and responsibility.⁹³ Therefore, collaborating with NGOs will help corporations to improve their sustainability performance.⁹⁴

(d) The sustainability compliance within the value chain: Integrating sustainability in operations of an organisation requires the involvement of the whole value chain. As such, the Sustainable Supply Chain Management (SSCM) helps companies towards this integration.⁹⁵ Since as a part of the SSCM, firms need to consider all the stages across the entire value chain for each product as well as the entire product life-cycle.⁹⁶ Especially as firms are often experiencing a significant pressure to reduce costs in the supply chain, although switching to lower costs of suppliers may increase social and environmental impacts, and reactions from the various stakeholders, including the employees, customers and community activists, which may have a detrimental effect on financial performance.⁹⁷ On this base, firms must seek to ensure there is CS across the entire value chain, including suppliers, distributors, partners and customers.⁹⁸ In this vein, firms need to gather all the necessary information about the supplier, establish the supplier assessment standard and evaluate the environmental performance of the suppliers and their products.⁹⁹ For instance, a buyer firms requires their suppliers to validate green manufacturing through international certification like the ISO14001.¹⁰⁰ Reciprocally, this applies through pressuring the suppliers to provide sustainable products and services and reduce the negative social and environmental impacts of their components.¹⁰¹ On this account, corporations have initiated several methods for establishing sustainable purchasing with their suppliers¹⁰² like written policies and communication, such as code of conducts and regulations of suppliers; questionnaires and audits - to verify the compliance of suppliers with the standards of the company; supplier meetings also help to communicate the CS visions; training and technical support enables the companies to develop education and training programmes to enlighten the suppliers towards the perspectives and ideal of the company.

3) The Determinants for the Successful Implementation of Corporate Sustainability

Concisely, it is observed that merely improving the intra-organisational sustainability performance is not sustainable, because strategy alone is not sufficient. For this reason, corporate managers need to always support any strategy with adequate structures. Equally, they also need to integrate sustainability into all the strategic decisions and then introduce additional systems and rewards to formalise and support.¹⁰³ That being the case, *Engert and Baumgartner* affirm that bridging the gap between the formulation and implementation of the CS strategy is highly associated with six success factors – which are organisational structure, organisational culture, leadership, management control, employee motivation and qualifications, and communication.¹⁰⁴ As such, in complement to right leadership and adequate communication, companies readily need the informal (soft) systems in addition to the formal (hard) systems for any successful implementation.¹⁰⁵ That is why *Ng et al.* add that successful CS work entails working to balance all the three dimensions.¹⁰⁶ From this perspective, the modalities to successfully implement CS in the EI can be through:

(a) The integration of the three dimensions of CS: Since to develop a sustainable strategy, companies need to consider all the dimensions of CS when analysing the impacts and outcomes of their strategic objectives. This is because in sustainability reporting, the materiality analysis studies the significant economic, environmental, and social impacts of the organisation that cross a threshold in affecting the ability to meet the needs of the present without compromising the needs of future generations.¹⁰⁷ Especially since implementing a materiality analysis will help the organisations towards integrating the social, environmental, and economical aspects. In this regard, materiality aims at identifying the societal and environmental issues that present risks or opportunities to a company while taking into consideration the issues of most concern to external stakeholders.¹⁰⁸

⁹² *Ibid.*

⁹³ *Morched, M. and Asami, Y. (2015). "The role of NGOs in public and private land development: The case of Dhaka city". Geoforum, pp. 4-13. <https://www.sciencedirect.com/science/article/pii/S0016718515000020>.*

⁹⁴ *Epstein (2008)., op cit.*

⁹⁵ *Gupta, S. and Palsule-Desai, O. (2011). "Sustainable supply chain management: Review and research opportunities". IBM Management Review.*

⁹⁶ *Ibid.*

⁹⁷ *Epstein (2008)., op cit., p. 249.*

⁹⁸ *Gupta and Palsule-Desai (2011)., op cit.*

⁹⁹ *Chu, S., Yang, H., Lee, M. and Park, S. (2017). "The Impact of Institutional Pressures on Green Supply Chain Management and Firm Performance: Top Management Roles and Social Capital". Giuseppe Ioppolo Editions.*

¹⁰⁰ *Ibid.*

¹⁰¹ *Epstein (2008)., op cit.*

¹⁰² *Ibid., p. 213.*

¹⁰³ *Ibid.*

¹⁰⁴ *Engert, S. and Baumgartner, R. (2016). "Corporate sustainability strategy. Bridging the gap between formulation and implementation". Journal of Cleaner Production. <https://doi.org/10.1016/j.jclepro.2015.11.094>.*

¹⁰⁵ *Epstein and Buhovac (2010)., op, cit.*

¹⁰⁶ *Ng et al (2017)., op cit.*

¹⁰⁷ *GRI, (2013). Materiality. <https://g4.globalreporting.org/how-you-should-report/reporting-principles/principles-for-defining-report-content/materiality/Pages/default.aspx>*

¹⁰⁸ *PGS, (2013). Determining materiality: a key for corporate sustainability.*

<http://www.pgsadvisors.com/2013/07/determining-materiality-a-key-tool-for-corporate-sustainability/>

(b) The enhancement of effective communication: Indeed, internal communication is particularly important for integrating CS, as Engert *et al.* have stressed the role in transparent communication for successful implementation of CS strategies.¹⁰⁹ This is because the formal as well as informal communications are considered as key factors. As such, implementing sustainability or improving current sustainability practices begins by communicating to all employees and staff, the importance and benefits that environmental and social performances will bring to the corporation, to their jobs at their individual level and interests as well as to the society and the ecosystem.¹¹⁰ These messages can be communicated by internal training programmes for the financial, social, and environmental impacts of sustainability practices.¹¹¹

(c) The encouragement of sustainable leadership: On this account, it is observed that best-practice companies have a strategy that includes sustainability as a central purpose and leaders, who will show their commitment to sustainability by articulating trade-offs to managers and aligning the strategy, structure, systems, people, and culture of the organisation.¹¹² For this reason, empathic and committed leadership is the key to a sustainable culture.¹¹³ As such, the best way to do this is to make sure that the employees are fully trained and considered as stakeholders.¹¹⁴ With the leaders having the prime role in identifying all the drivers of implementing CS in their organisations, by conceiving appropriate mission statements and ensuring the regulatory compliance of their future targets. As they have the power of changing the corporate structure to be in accordance with sustainability.¹¹⁵ Especially as green awareness often starts with the strong mission statement that corporate leaders put high emphasis and tone on.¹¹⁶ That being the case, CEOs have the key role in reflecting the image of the company publicly, and gaining the confidence of the workers towards sustainable goals. Since the boards of directors (BoDs) have the responsibility to enforce the sustainability principles through the company.¹¹⁷ With the role of the managers being to develop the action plans and technical strategies. Indeed, in addition to disclosing the sustainable visions, the leaders also have the responsibility to create an environment that encourages sustainability. As they can only do so by integrating green and social awareness into all the levels of the organisations and the appointed decisions, in all facilities, at all geographical locations of the organisation.¹¹⁸ In this regard, the BoDs and management must ensure that the employees are devoted to sustainability. With the essential enablers to CS awareness to aid being the sets of standards like ISO14001 for CS processes and operations, SA8000 for workplace values, and codes of conduct that executives should use, as a sort of convention for the workers and employees to follow.

(d) The horizon of the Implementing measurement and reward systems: Apparently, corporate incentive and reward systems can be significant tools to implement CS and align the interests of the corporation, the managers, and the employees. This is because they can reinforce the sense of responsibility of the employees and hold them accountable for their contribution to the sustainability strategy, by developing all the necessary measurement and evaluation systems on the corporate culture.¹¹⁹ Equally, the performance measurement and reward systems seek to steer the behaviour of the employees towards the strategic goals.¹²⁰ In this light, they are needed to appraise the benefits for implementing sustainability.¹²¹ Since the incentive compensations systems can tie the employees to the CS vision, thus, enhancing their work engagement, reinforcing their commitment, and keeping them more motivated.¹²² What's more, the measurement systems are important to evaluate the rewards or bonus allocation, and verify whether the company is performing in the right track.¹²³ This is because for a business unit, the measurement systems are determined by the corporate strategy and action taken by the unit that contributes to the success of the strategy. In this vein, Ahmad *et al.*, emphasize that performance systems are tools used within the performance measurement systems to assess the performance of the various processes. As the systems follow not only the work of the employees, but also those of the executives, no matter what level of the organisation they work in.¹²⁴ Thus, integrating the measures of social and environmental performance will ensure the proper implementation of the CS mission.¹²⁵ With the measures of the environmental impact including the energy consumption rate, waste minimisation, renewable use and so on. While the measures of social impact include the number of industrial accidents, employee's safety, the projects in collaboration with NGOs, the workforce diversity and so on.¹²⁶ On this base, companies have to always evaluate their social and environmental performance between other firms through benchmarking. This can be done by comparing

¹⁰⁹ Engert and Baumgartner (2015), *op cit.*

¹¹⁰ Epstein (2008), *op cit.*

¹¹¹ *Ibid.*

¹¹² *Ibid.*, p. 252

¹¹³ Epstein and Buhovac (2010), *op cit.*

¹¹⁴ Esquer-Peralta, J., Velazquez, L., Munguia, N. (2008). "Perception of core elements for sustainability management systems (SMS)". *Management Decision*, pp. 1027-1038.

¹¹⁵ Epstein (2008), *op cit.*

¹¹⁶ *Ibid.*

¹¹⁷ *Ibid.*

¹¹⁸ *Ibid.*

¹¹⁹ *Ibid.*

¹²⁰ Epstein and Buhovac (2010), *op cit.*

¹²¹ Yuen and Lim (2016), *op cit.*

¹²² Taufek F., Zulkifle, Z., Bin Mohd Sharif, M., (2016). Sustainability in Employment: Reward System and Work Engagement. *Procedia Economics and Finance* 35, pp. 699 – 704.

¹²³ Epstein (2008), *op cit.*

¹²⁴ Ahmad, S., Svalestuen, F., Andersen, B., Torp, O. (2015). "A review of performance measurement for successful concurrent construction". *Procedia Social and Behavioral Sciences* 226, pp. 447 – 454.

¹²⁵ Epstein (2008), *op cit.*

¹²⁶ *Ibid.*

their performance, which can help them to gain an independent perspective about how well they perform compared to other companies. In this light, it is observed that the measurement systems allow the evaluation of the investment efforts related to sustainability, helping to link the strategies to the budgets and resource allocation. As the systems investigate how well sustainability programmes are contributing to the corporate value and shed light on the direction for improvements and opportunities. Which is very vital as it illuminates the iconic nature and potentials of the paradigm shift to CS in the EI.

CONCLUSION

Succinctly, owing to the emerging and crucial field of study of CS, the paper has provided a modicum contribution towards the understanding of the substratum, potentials, and challenges of implementing viable CS mechanisms in the EI. This is because in a strikingly natural resource consuming world, sustainable development is increasingly adopted for the purpose of conserving and protecting the environment. As substantial corporations are increasingly integrating sustainability into their businesses. Although despite these efforts, it is noted that when corporations seek to move towards more sustainable operations and goals, their practice seldom align smoothly. That is why the paper has introduced the literature and theories of CS and how they have been applied, especially in the EI. By defining and reviewing the origins of CS, while exploring some of its underlying principles, and demonstrating how the concept is essentially contested as it overlaps other related concepts like CSR, business ethics, and corporate citizenship. In this light, the potentials of implementing CS in the EI are examined, by highlighting the significance of the values congruence of managers and employees with the organisational values; the instrumental association between the individual concern, knowledge and commitment and corporate social and environmental responsiveness; the narrative accounts by sustainability managers of corporate “greening”; the role of sustainability managers as champions, entrepreneurs or agents of change in their organisations; and the application of psychology to understand individual responses to sustainability issues. By the same token, it is noted that the implementation of sustainability, in its varied forms, opens up for a number of challenges for the extractive companies. As the discussion on the relation between CS strategy and implementation has provided more light on the challenges related to the implementation framework of CS. Which has heralded and illuminated the relevance of the paper on the importance of having a sustainable organisation. By providing a broader context of the historical and contemporary insights, and interface of CS and sustainable development, whilst considering the more narrow questions about the specific challenges of CS and appropriate solutions. Since the implementation viable CS mechanisms in the EI, can play an equivocal role in the protection and development of the environment in the developing countries with ambition to achieve the sustainable development goals by the year 2030. Especially as sustainable development is a convoluted and variegated issue, which combines efficiency, transparency, and equity, on economic, social, and environmental grounds.

Notwithstanding, in this contemporary era, there is an increasingly growing economy where companies can only survive if they maintain their competitive advantage. As such, it is noted that rather than seeing this as a barrier to sustainable development and environmental improvement, companies are taking it as an opportunity. Especially as their success lies in combining the competitive advantage with effective sustainable strategies. For this reason, the paper has also shown that through more transparency, a customer and social focus, and a welcoming corporate culture, such strategies can be implemented productively and revolutionise the ways of doing business that is consistent with sustainable development. Despite this, it is noted that since the problems link to sustainability are still existing, tremendous efforts need to be done to enable stakeholders to be more involved, by ensuring that sustainability should be part of the bureaucratic and authoritarian bodies, and that further sustainability education should be carried out, with more capable and productive research to be done. As such, although the extractive companies have increasingly begun responding to the sustainability challenges in remarkable ways - there have not been any significant stakeholder responses to these initiatives. Nevertheless, it is noted that some of the essential sustainability initiatives in the EI include: the usage of new technologies to reduce energy use; conversion of waste water into potable water; preservation of water resources by conservation, recycling, and minimising pollution; reclamation of biodiversity in areas impacted by mining operations and maintenance of existing biodiversity in land holdings; reduction of emissions and waste products, and reuse of waste materials in smelting operations; employment of community members - including women; management of community and employee health, even in areas not directly impacted by the extractive activities; provision of training programmes for community members; identification and protection of subsistence-related resources of local communities - including water, plants, and wildlife; planning for mine closures before the beginning of any mining activities; usage of mine closure as an opportunity to rehabilitate land; development of extensive written policies for all aspects of the activities of the company in consultation with the stakeholders; and co-ordination with the other agencies affecting livelihoods, for example, on poverty alleviation and environmental conservation initiatives. As they have aided in discerning the impacts and challenges of implementing CS in the EI.

RECOMMENDATIONS

From the foregoing, it is worth recommending that for CS to be the *modus operandi* of the extractive companies, they have to internally review and continually plan, evaluate, and communicate sustainability. Especially as the leaders of the EI are no longer simply interested in complying with the existing legislation, but are currently working to move beyond this point to create practices that others can adopt. That being the case, by researching the social, environmental, and economic impacts of decision-making before committing to new ventures, they have defined the best practices well before implementing the plans. As such, need to gain feedback continuously from the stakeholders, by working to ensure that their operations continue to satisfy the stakeholders. Besides, the leaders although have recognised that one plan of action cannot suit all the operations at all times, need to create and adopt flexible, context-driven models for the extractive activities. Likewise, the environmental leaders in the EI although are also continuously developing innovative means to save water, reduce harmful emissions, and diminish their operations’ contribution to global warming. They need to speed up their efforts to determine effective and efficient ways to reduce waste, by developing new means of waste disposal, adopting quantitative indicators to determine their current contributions to global warming and current energy and water use, and setting goals to reduce such impacts. In this light, they need to revamp and develop partnerships with other relevant organisations, to booster their efforts. Similarly, the leaders in the social sphere although have made considerable

efforts to enhance stakeholders engagement and community involvement – by working in partnership with the NGOs and governments, through being involved in community development projects, such as building infrastructure, schools, and health clinics, etc. With the management of the extractive companies to reinforce these partnerships initiatives with the community members and invigorate the status of their “*ombudsmen*” to address the concerns of workers, community members, and other stakeholders. In addition, since health and safety are also a major concern. The leading companies need to have written plans and directives to improve the safety of the workers, including mine safety and health care for workers and their family members, and participation in drug trails.

Congruently, in recognising that financial transparency can enhance both domestic and foreign direct investments, financial management and accountability to the public of financial transactions are vital. The extractive companies need to seek for ways to account for the economic impacts as completely as possible, by incorporating social and environmental costs in the economic analysis of the projects. Which includes, increasing accountability at all points of the supply chain and the disclosure of all financial transactions between the extractive companies and host governments about the sustainability practices of the companies. In this light, partnerships are a means of building such support to reinforce the initiatives of the companies and ensure the proper use of the best practices. With such partnerships involving NGOs or government bodies, or resulting in public-private partnerships, which can develop new certification standards that could also provide benchmarks. Moreover, since management has the key role to play in sustainability practices, it is ideal for each company to designate a committee to treat sustainability issues. Equally, to further ensure sustainable management, it is strongly recommended that the companies should publish a GRI-based sustainability report. As such, the extractive companies should not only produce thorough reports, but should also adopt new approaches to reporting, such as web-based reporting, developing reports for specific stakeholder groups or issues, and preparing ‘shadow accounts’ that incorporate social and environmental costs”. This is because GRI reporting procedures allow companies to conduct a thorough investigation of their sustainability practices, by taking into account all the factors that contribute to the environmental, social and economic sustainability of the company. As the GRI guidelines are periodically updated to include new criteria of importance to the stakeholders like intangible or “external” factors that have not previously been used to judge the value of a company. Most importantly, it is worth reiterating that the extractive companies need to integrate sustainability in their *modus operandi*, by making tremendous efforts to understand sustainability as a philosophy; apply it not only for the demands of the market or laws, but to open new opportunities; have a long-term vision and ensure that all the management bodies of the company, as well as their departments - do not fall into green-washing. This is because the results expected for integrating sustainability into the business strategy can enhance: efficiencies (energy, transport, water, packaging, etc.), opportunities for innovation and access to new markets, increase in sales and greater customer loyalty, better control of the value chain, staff satisfaction, and greater attractiveness for investors and public competitions.

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