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**Challenges with the Implementation of Sustainable Procurement Practices in the
Mining Industry.**

(A Case Study of Some Selected Mining Firms in Western Region of Ghana)

by

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MASTER OF SCIENCE

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DECLARATION

I hereby declare that this submission is my own work towards the MSc and that, to the best of my knowledge, it contains no material previously published by another person, nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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ABSTRACT

Sustainable Procurement (SP) as a new phenomenon seeks to divert the practice of traditional procurement to modern day procurement practice that inculcates sustainability issues that foster the need for organizations to improve upon achieving efficiency. The study sought to focus on the challenges in implementation of Sustainable Procurement and to do that structured questionnaires were administered to some selected mining firms in the Western Region of Ghana to analyze the extent to which these firms mitigate challenges. Questionnaires were deployed to departments such as Procurement, Finance, Human Resources, Maintenance and Marketing using the purposive sampling approach. Most questions were designed using a likert scale of 1 to 5 for responses. 50 questionnaires that were circulated were retrieved and analyzed. Data analysis was done using Statistical Package for Social Sciences (SPSS) software in descriptive statistical tools in the form of percentages. The study made some key findings that competitive bidding was rather practiced as compared to sole sourcing and that also there was not enough awareness and knowledge in the area of Sustainable Procurement. Challenges such as ICT difficulties, innovation, remuneration and increased cost, regulation and governance, inadequate funding, consumer perception, among others were very critical challenges inhibiting SP implementation. Also, social incentives, understanding and managing risks, regular monitoring and control reviews, among others were all critical practices of SP. In addition, interdepartmental coordination, continuous improvement, measuring supplier performance, among others were also critical success factors enabling the drive of SP. The study concluded that SP implementation and practice should be done in conformance with the Public Procurement Act, 2003 (Act 663).

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LIST OF ABBREVIATIONS

AMR:	Academy of Management Review
CIPS:	Chartered Institute of Procurement & Supply
CSR:	Corporate Social Responsibility
DEFRA:	Department for Environment, Food & Rural Affairs, UK
EDI:	Electronic Data Interchange
EU:	European Union
GDP:	Gross Domestic Product
ICT:	Information Communication Technology
IISD:	International Institute for Sustainable Development
ISM:	Institute for Supply Management
NGO:	Non-Governmental Organization

OECD: Organization for Economic Co-operation and Development

PA: Procurement Agreements

PPA: Public Procurement Act

SP: Sustainable Procurement

UK: United Kingdom

UNEP: United Nations Environmental Programme

UNGM: United Nations Global Marketplace

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DEDICATION

This thesis is dedicated to the Almighty God, My dear wife Mrs. Constance A. Nutakor, my lovely children: Dzidzor Junior Nutakor and Mawunyo Nutakor. Also to the entire Nutakor and Tatrah family of Whuti in the Volta Region, and to all those who helped to make this project a success.



CHAPTER ONE

INTRODUCTION

1.1 Background of Study

The mining industry comes with vast economic benefits in terms of foreign exchange earnings as well as enormous environmental challenges to many countries particularly in developing countries due to issues of lack of proper technology to curb these environmental challenges. Some environmental scholars are of the view that Ghana is far better if she does not perform mining activities. Proponents of this view hold the assertion that the total net benefits of mining that is, the economic benefit minus the social benefit is negative. In that the social benefit is negative due to land degradation issues, water pollution, and climate change among others. Therefore, there is the need to introduce the concept of sustainable mining to mitigate these challenges. Sustainable mining will also have the concept of sustainable procurement as its segment which is the focal area of this study. (Mensah and Ameyaw, 2012).

Natural resources are indispensable for both economic and human welfare. Nevertheless, its mining is accompanying with huge amounts of sunk investments thereby there is the concern for proper procurement processes and procedures (sustainable procurement) to ensure value for money on projects. Historically, procurement in the mining sector has been met with strict regulations and competitiveness to ensure that the sector is much planned to conform to standards Sallas-Mensah (2013). Making smart choices by organizations decreases costs, minimize risk exposure and grow relationship with key suppliers. Mining industry develop a sustainable procurement method in other to reduce risk, based on understanding of supply chain risks and managing material sustainability issues. The acquisition thru buying, rental,

lease, hire purchase licenses, occupancy, franchise, or any additional contractual resources of any kind of works, possessions, services or goods as well as livestock or any mixture by Public Procurement and Disposal act (2005) is called Procurement. Sustainable procurement is therefore the application of sustainable development values in the procurement function. Means of appreciating and handling social, moral, security, eco-friendly and financial value accompanying with the supply chain and materials selection in terms of Sustainable procurement. Enhancing procurement performance aids to establish “purchasing social responsibility” (Walker and Brammer, 2009); making sustainable procurement common in streak with Legislations/ initiatives aimed at the selection of resources, providers and subcontractors, considering of its effects on eco-friendly. Community, responsibility, selection and enhanced usage of goods, works and services” (Bryde and Meehan, 2010).

The effectiveness in energy usage, waste generation and water consumption has been recognized long ago by most Businesses that it could lower cost (Bobis and Staniszewski 2006). Nevertheless, increasing financial stresses, rising demands of clients and other important participants, and forever strict government by-laws are rising the focus on “green” procurement for several businesses. It is important we make our procurement processes environmentally friendly and climate neutral, a process we can call "Green Procurement". Factors such as the efficient use of energy and resources, reclamation of mined sites, reforestation and eliminating wasteful practices that could lead to global warming and environmental pollution should be adopted (Muniru, 2013).

Every business wanting to uphold productivity whereas taking on obligation for the environment and looking after its users must reach further than and act in accordance with government by-laws. Procurement institutions that are extremely dedicated to sustainability

and want to achieve the entire value as of its share mutual traits and procedures such as transparent, formalized dimension and metrics of sustainability through the whole supply chain; concentrated goods and procedure improvement stressing decrease of the general total cost of ownership and sustainable governance concentrated on upholding strong supplier partnerships.

This research explored the impacts and challenges with the implementation of Sustainable Procurement practices and the extent to which the procuring entities have achieved sustainable procurement.

1.2 Problem Statement

New trends in the field of procurement require introduction of sustainability principles in the way the whole procurement process is executed. The need to improve organizational efficiency, reduce waste, overcome supply chain risk, and achieve competitive position has made companies to start considering environmental issues from a competitive view point. Procuring organizations are more seriously involved in designing and implementing sustainable procurement policies concentrating on how environmental issues and issues relating to other aspects of the sustainable development pillars (society and economy) can be integrated in the procurement process activities. However, a clear understanding of the concept of sustainability and how it is related to the procurement process is still lacking especially within the context of a developing countries (Kalubanga, 2012).

The instrument of government policy that is sustainable public procurement is progressively acknowledged as a lever for broader economic, social and environmental changes (OECD, 2007). Firms in the country remain ignorant of the best sustainable procurement practices,

since there is not much literature in this area of study (Muniru, 2013). Sustainable procurement can be seen as a segment of sustainable development. Ghana currently is on the threshold of achieving sustainable development goals therefore the industry needs to take corrective steps to ensuring sustainable procurement hence “Green Procurement”. Ghana has no clear guidelines for sustainable procurement of goods, works and services and therefore proper guidelines and the appropriate corrective guidelines for any challenges should be formulated.

Several studies, including those by independent third party research organizations such as Aberdeen Group, ISM, Forrester, and AMR Research, have all similarly identified common components addressing the economic, social and environmental elements in procurement. There is the urgent need to respond to challenges such as cost-cutting, innovation, regulation, consumer perception and to find ways to mitigating such challenges. The Public Procurement Act, 2003 (Act 663) does not necessarily make provisions to ensuring green procurement hence the elements of sustainable procurement are missing from procurement activities. It is with such challenges that this study attempts to narrow its discussion and find ways to mitigate them.

1.3 Aim

The aim of this research is to identify challenges with the implementation of sustainable procurement in the mining industry in Ghana.

1.4 Objectives of the Research

The objectives of the research are to;

- a. Identify challenges with the implementation of sustainable procurement within the mining sector in Ghana.
- b. Evaluate the current state of sustainable procurement practices in the sector.
- c. Assess the critical success factors for enabling sustainable procurement practice in the sector.

1.5 Research Questions

- a. What are the challenges with the implementation of sustainable procurement within the mining sector?
- b. What is the current state of sustainable procurement practices in the mining sector?
- c. What critical success factors can enable sustainable procurement practice in the mining sector?

1.6 Scope of the Study

The scope of the study was limited to procurement activities in the mining industry, with the following selected mining firms in the Western Region. These are Goldfields Ghana Ltd, Tarkwa, AngloGold Ashanti Iduapriem Co. Ltd. Tarkwa and Ghana Manganese Co. Ltd Nsuta. Others are Africa Mining Services (AMS) Tarkwa, Kal Tire Mining Tire Group, Tarkwa and Hyspec Mining Services Group Tarkwa, all in the Western Region of Ghana and their level of adherence to the Public Procurement Act, 2003 (Act 663) of Ghana.

1.7 Research Justification

The study sought to highlight sustainable procurement challenges that when corrected will have a positive on the procurement process and its sustainability; the results will enhance mining institutions in their sustainable procurement policy formulation and practices and will also enhance our quest to achieving sustainable development as a country. It will also serve as a guide to researchers to further develop the literature on this concept since this is still a maturing phenomenon.

1.8 Structure of the Thesis

This research is divided into five (5) chapters. Chapter (1) explains the problem statement, the aim, objectives, research questions, scope of the study, research justification. Chapter (2) reviews literature on, the Ghanaian mining industry, the concept of sustainable procurement, factors that necessitate the implementation of sustainable procurement in the mining industry, factors hindering the implementation of sustainable procurement etc. Chapter (3) explains the methodology that will be used in conducting the research. Chapter (4) presents the analysis and discussion on the results of the study. Chapter (5) which is the last chapter is the summary, conclusions and suggests recommendations for future research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews related literature from empirical studies based on the aim and objectives of the research. The chapter also attempts to build on already existing literature on the subject matter, looking at critical areas on sustainable procurement. The purpose of the literature review is to help identify the gaps in literature so that they can be addressed in the current

study. The review looks at the concept of Sustainable Procurement, the framework/Policy, Traditional Procurement versus Sustainable Procurement, Challenges in Sustainable Procurement, E-Procurement, Potential benefits to Sustainable Procurement among other relevant topics.

2.2 The Concept of Sustainable Procurement

UNEP Annual Report on Procurement (2013) states that, institutions come across their requests for goods, services, works and utilities in a manner that attains value for money on an entire life source in terms of making profits not only to the organization, then again also to the general public and the economy this process is termed as Sustainable Procurement, whereas minimizing destruction to the environment. Sustainable Procurement seek out to attain the proper equilibrium among the three pillars of sustainable development that is economic, social and environmental. Issues of economy comprise the costs of goods and services over their whole life cycle, for instance: purchase, maintenance, operations and end-of-life administration costs (comprising waste disposal) in line thru good fiscal administration. Social issues comprises social justice and fairness; protection and security; human rights and employment circumstances. Emissions to air, land and water, environment change, biodiversity, natural resource use and water shortage over the entire product life cycle are some of the issues of the environment.

Also according to UNGM (2016), Procurement is termed sustainable when it integrates necessities, specifications and standards that are well-matched and in favour of the safety of the environment, social improvement and in provision of fiscal growth, specifically thru in search of resource effectiveness, enhancing the excellence of goods and services and eventually improving costs.

All institutions, through sustainable procurement use their personal procuring authority to give a sign to the market in favour of sustainability and base their selection of products and services on: fiscal thoughts: best value for money, price, quality, accessibility, functionality: eco-friendly aspects, that is “green procurement” which is the influence of procurement on the environment that the goods and/or amenity has over its entire life-cycle, from cradle to grave; and societal aspects: effects of buying decisions on matters for instance poverty eradication, global neutrality in the dissemination of resources, labour conditions, and human rights.

Sustainable Procurement refers to the act of assimilating a concern for wider social and environmental effects in procurement undertaken by government or public sector bodies (Preuss, 2009; Walker and Brammer, 2009). Contribution of numerous research works has aided the discussion of achieving sustainability in procurement within the mining sector. Boomsma (2008) states that emerging countries such as Ghana seemed to be having challenges in its present procurement procedures and structures.

The concept is not about public sector procurement alone, there are to be greater challenges in current private sector procurement procedures and structure in the emerging nations (Boomsma, 2008). These generate lack in the capacity required to safeguard sustainability in public procurement. Challenges such as these could be intrinsic in the Ghanaian procurement structure and this research pursues to ascertain such limitations.

Walker and Brammer (2011), in their global comparative research on sustainable procurement in the public sector established that some sustainable procurement processes are obvious in public sector procurement practice and that the level and nature of sustainable procurement

methods differs considerably thru institutions. One of the objectives in this study is to find out the level of sustainable procurement practices present in the public sector.

2.3 Sustainable Procurement Frameworks

The integral role of Procurement activities in an organization procedures make it the central touch point for all interested party, clients, suppliers, subcontractors and service providers to efficiently cooperate with each other and build sustainability across the whole supply chain.

A sustainable procurement organization addresses the economic, social and environmental elements using a holistic technique of each procurement decisions. Cautious assessment of the constituents in these three elements results in outcomes that profit the rest of the organization and generates the outline for sustainable procurement. Bodies such as the Ghana Chamber of Mines can drive the sustainable procurement process with respect to regulation by formulating good policies to improve procurement standards across the mining sector. According to (Hilson, 2002) Ghana mining industry for many decades has been in existence. Considerable foreign investment and assistance has been devoted in this sector (Wamboye et al., 2014).

The businesses even though supported by communities for cost-effective reasons (Bloch and Owusu, 2012), the industry has been mostly perceived as a socio-environmentally disruptive (Peck and Sinding, 2003). To response to this bad image and reputes, several efforts have been made by the mining sector to enhance its socio-environmental performance and sustainable procurement has been identified as one of the numerous measures. In order to enhance sustainability, the mining sector has required and should endeavor to go further than its institutional limitations in an effort to sort their supply chain activities and designs additional environmentally and socially sound practices. The efforts should comprise a more effective management of diminishing natural mineral resources and decreasing

environmental footprints (Muduli et al., 2012).

Mining boom of previous years may have directed a renewed interest and concern for the sector's short and long term effects. However, looking at the way new ventures, more jobs and economic growth has brought substantial investments in to a number of regions, several of which beforehand were in decline. At the same time, some difficult sustainability challenges facing the mining sector. Footprints in its environments are visible to see. Communities, who have been affected by the eco-friendly degradation, have come to expect and demand a greater say and parts of benefits. When considering new and existing projects, stakeholders and regulators are required to weigh apparently incommensurable pros and cons of mining activities.

In the light of this, taking social and environmental factors into thoughtfulness alongside financial factors in making procurement decisions is all about sustainable procurement. It comprises beholding further than the traditional economic parameters and creating decision established on the whole life cost, the accompanying hazards, measures of success and insinuations for society and the environment. Setting procurement into the wider tactical context requires a decisions making in this way which includes value for money, performance management, businesses and community precedence (CIPS, 2014)

A policy or outline should comprise: Intended growth of targets for all environmental effects and extension of an outline to envelope social issues (www.sustainable-development.gov.uk, 2002). Guiding principle of this nature must likewise cover financial and social insinuations of good sustainable procurement practices. In Ghana, these important features seem to exist far away from the current procurement practices.

Veeke and Gunning (1993) presented an outline to set the procurement undertakings into viewpoint. The outline describes the public procurement function. There is further to procurement function than just the procurement procedure (Harink, 2003).

2.3.1 The Corporate and Procurement Policy

The Corporate and procurement policies of an organization may inform how procurement ought to be executed. Visions on the governance of the state, district, and municipality or in the business policy are describe at every level by governments. These visions involve broad objectives, like generating employment, uphold or advance economic wealth or inspire sustainability. Administrative decision making will be influence by these objectives and its policies have to be shadowed for all action taken by the administration. However, from the corporate policy follows directly the procurement policy. The procurement policy defines the objectives, usual procedures and significant regulation for the procurement method of the administration. The objectives established in the business guiding principle are expanded into the procurement procedure. An administration with sustainability ambitions on a business level can set goals to implement sustainability in the procurement process of goods, services and works (Harink, 2003).

2.3.2 Principal and Contractor

A transaction is made amongst a principal and a contractor in the procurement process. Principals' role is generally adopted by administrations or departments in a governmental institution, who need goods, services and works. The institutions that provide goods, services and works execute the role of contractor in the deal. The organization needs to acknowledge

that the objectives and goals for the procurement method is also dependent on how best contractors can live up to expectation (Harink, 2003).

2.3.3 Organization and Employees

Sequence of activities is carried out in the procurement process. Within a governmental organization, several employees with different functions take part in these activities. For the procurement of civil construction projects, many departments take part in the undertakings. In the procurement of the mining projects all departments such as the design, creation, maintenance and operation play a role. The manner in which these subdivisions cooperate with one another impacts the efficiency of the procurement method (Harink, 2003). The government can define rules and procedures for this collaboration in the procurement policy (Harink, 2003).

2.3.4 Procedures and Methods/Information

The accessible techniques and systems gives direction to government to discharge procurement happenings. In these procedures, the dissimilar kinds of agreement, the selection of contractors, the procedures for awarding the contract and the guidelines and procedures appropriate to the procurement process are described. The effectiveness of the Procurement process may increase with strict and adherence and compliance to applicable procedures and guidelines.

The use of information systems also assists the process of procurement with the needed information to execute procurement activities. In the mining business, the use of information system is still limited. However, measures are put in place to motivate the use of information

systems in the procurement process. These measures include the online distribution of documents to contractors which must be carried out with great attention however; the disseminated information is generally confidential.

2.3.5 Key Performance Indicators

Main performance indicators are used to assess procurement functions. The procurement policy goals are quantified by performance indicators. When the objectives are measured in relation to real output of a procurement function, the level of its efficiency can be ascertained. All elements in the procurement function are influenced by main performance indicators. The manner in which events are used, or the message with the providers is carried out are some of the subjects which are indicated (Harink, 2003).

2.4 Traditional Procurement versus Sustainable Procurement

According to Mensah and Ameyaw (2013) Value for money only has been the focus of traditional procurement whereas sustainable procurement includes accomplishing value for money on an entire life basis by bearing in mind the economic, environmental and social matters linked with the goods and services purchased, with the aim of decreasing likely adverse effects. The Ghana's Public Procurement Act, 2003 (Act 663), the way it is currently, appears to discourse merely a few of the sustainability matters. The task is how to describe perhaps involvement of economic, social or environmental deliberations in the method whereas safeguarding that administration conclusions are reasonable and transparent. Public procurement has progressively turned into a worldwide concern. For deal with social

disadvantages and exclusion, sustainable public procurement method can be used. (Boomsma, 2008)

2.5 Challenges to Sustainable Procurement

These are forces that present themselves as elements working in contrast to the successful accomplishment of sustainable procurement in a specified procurement organization of a nation. Overpowering them is desirable for reaching sustainability in a procurement system.

Also on the other hand, Ghana's, public procurement embodies about 24% of entire imports and apart from personal emoluments, public procurement embodies 50-70% of the national budget and 14% of Gross Domestic Product (GDP) (Adjei, 2005).

Omotowa (2015) strongly argues that "over 80% of government's spending goes into procurement of goods and services and also in organizations, significant amount is spent on goods and services. It is important that these are carried out in a professional way with international standards that enable value for money."

Kennard (2006) identified, lack of understanding of sustainability within businesses, coupled with poor preparation and accountability being important blockades to constructing supplier capacity as some of the challenges fronting the capacity building in accomplishing sustainable procurement in all-purpose businesses.

Lacy et al. (2009) call for focused investments in talent. They believed that companies must invest in assisting workers obtain and create the knowledge, skills and outlooks necessary to carry out sustainability-related initiatives and create extra new concepts. And they must tap into workers' aspiration to brand an affirmative dissimilarity in their establishments, publics

and the world. Whereas the attentiveness of Lacy et al. (2009) was on, in what way foremost private companies in advanced world can enhance upon SP practice, the center of this study is on by what means the government, the major employer in Ghana, can take the first step to make sure that the required investments are ended keen on management ability to foster integration of sustainability into public procurement.

Green procurement: pressures, practices and performance have been studied by several researchers according to (Zhu et al., 2004, 2007; Ninlawan et al., 2011) in the Chinese automobile business sector and Thailand electronics business sector. It has been observed that increasing pressures from a diversity of directions enhance both their economic and ecofriendly performance. Zhu et al. (2004) similarly concentrating on dissimilar dimensions of practices comprising green procurement, internal eco-friendly management, eco design, client collaboration, and investment recovery.

Lamming and Hampson (2006) explored the notions of ecologically sound management and linked them to green procurement practices such as vendor assessment, cooperative supply tactics, instituting environmental procurement policy and working with suppliers to facilitate enhancements.

In public procurement practice, difficulties on side of governments is to monitor the execution of contracts by contractors and subcontractors that are regularly subcontracted and make sure that labour and environmental criterions are appreciated (OECD, 2007).

2.6 Potential benefits from Sustainable Procurement

An appraisal of present literature can disclose that if Sustainable Procurement is to be carried out professionally, cutting expenses, shorten timescales, enhance stakeholder affiliations, upsurge sales, decrease risks, improve reputations and increase profit margins these are the

potential of sustainable procurement. Kennard (2006) and Kalubanga (2012) indicated that profits to an organisation in implementing a Sustainable Procurement Policy will be to:

- control of costs by implementing a broader technique to entire life-cycle costing (The Facilities Society, 2012)
- improve domestic and national standards through performance assessments (Tucker and Pitt, 2009)
- obedience with eco-friendly and social legislations (DEFRA, 2007)
- managing risks and Corporate Social Responsibility (CSR) (Jones et al., 2006)
- constructing a sustainable supply chain for the future (Mohd-Noor and Pitt, 2009; Booty, 2009)
- involvement of the local SME business in the industry (Asian Development Bank, 2011)

A wider list of possible benefits sustainable procurement practices might have for an association implementing such practices in its processes is availed as comprising (Pitt et al., 2005)

- the presence of an outline procurement policy and the significance results - the enhanced social, environmental and economic impacts (Nijaki and Worre, 2012)
- agreement with nationwide and global sustainability principles and guidelines
- to have an enhanced considerate of hazards in the supply chain (Lamming and Hampson, 1996)
- contributes to the sustainable organizational plan
- improved commercial/monetary decisions from considerate of matters that influence on the procurement decision (entire life cycle)

- possible benefits in an extended period relationship, novelty (Drejer, 2007; Jensen, 2011), better materials, alternatives, technical advice, emerging technologies
- if the objective is for a „short-term“ profit, it’s not a sustainable procurement, there is a need to construct a further sustainable platform and accomplish savings year on year
- improved excellence of purchasing staff with extra sufficient objectives and enhanced performance;
- training of suppliers towards green products and improving their services
- much extra preemptive in-house discussion and challenge with demand side
- more operational assessment of proposals and offers
- further „sustainable“ source of supply (Drejer, 2007; Jensen, 2011).

2.7 E-Procurement

This seeks to examine the relationship amongst sustainable procurement and e-procurement, to the policy objectives in public procurement. Communication and its e- Procurement might aid eco-friendly, labour, health and safety aspect of sustainable procurement. Conversely, e-procurement might impede purchasing from native suppliers (Bobis and Staniszewski 2006).

Public sector spending attributable to acquisitions of products and services has been the subject of important present-day consideration. {(Brulhart and Trionfett, 2004); FernarndezMartin, (1996), (McCrudden, 2004); (Trionfett, 2000)}. In emerging discussions, concerning public procurement, the role of government acquisitions as an impetus for sustainable development has been a subject of specific curiosity. Electronic procurement in the public domain can be seen as a policy tool to support the distribution of public procurement

policy, enhancing transparency and efficient (Carayannis and Popescu, 2005). Information technology (e-procurement) offers a variety of first-hand opportunities to make sustainable purchasing effective for public sector organizations (Legarth, 2001). Ecommerce is anticipated to stimulus an extensive variety of supply chain systems and therefore bring about unidentified environmental effects (Abukhader and Jonson, 2004), in recent years (McCrudden, 2004; Weiss and Thurbon, 2006). Also, sustainability in the supply chain has tended to focus on environmental supply in the manufacturing sector; we extend this to include investigation of the social aspects of sustainable procurement in the public sector (Abukhader and Jonson, 2004).

2.7.1 E-Procurement in the Public Sector

Information and communication technology (ICT) is altering the way that companies do business together and exchange of information, commercial scope of e-business comprises information exchange, commercial transactions and knowledge sharing among establishments (Croom, 2005), although e-commerce emphasizes simply on commercial transactions (Cullen and Webster, 2007). More or less of the technologies related with ecommerce comprise websites, email, extranets, internet and electronic data interchange (EDI) (McIvor and Humphre, 2004). The use of information technologies to expedite business-to-business (B2B), purchase transactions for resources and services is termed as eProcurement (Wuzsidisin, 2007).

In order to recognize promising suppliers of goods and services to intermingle with suppliers and to transfer payments, e-procurement makes use of electronic commerce technologies (Min

and Galle, 2003). E-procurement can help the administration in the manner it organizes business by decreasing operation cost, creating improved decision and getting more value (Panayiotou, Gayialis and Tatsiopoulou, 2004).

2.7.2. Relationship between E-Procurement and Sustainable Procurement

Despite major initiatives and entitlements of lessening cost through broader select and advanced efficiency, e-procurement may have been taken on to a less magnitude than anticipated by the public sector in some nations (Moe, 2004). Organizational concept may help comprehend the dissimilar attitudes towards implementation, and community objectives articulated as worry for the regional business community may be a significant Organizational issue (Moe, 2004). It has been suggested that, government face particular problems in introducing e-government due to the challenges they face in modernizing such vast enterprise (Deva doss, Pan and Huang, 2003). The electronic uprising initially arose, some anticipated it to quickly spread through the whole governmental countryside worldwide. Such anticipations existed based, at least in part, on the sharp rate of internet use by people and businesses.

A sample of over 280 public procurement professionals from 20 nations were used to carry out a study of sustainable procurement and e-procurement adoption with combined obligation for spending totaling \$45 BN. Using several regression, we nurture a model to display that e-procurement and communication with suppliers supports some kinds of sustainable procurement, and impedes others (Walker and Brammer, 2012). The environmental, labour, health and safety features of sustainable procurement could be aided by the used of e-procurement and communication with suppliers. On the other hand, eprocurement might impede purchasing from small indigenous businesses that are not eenabled. Others were a bit extra careful from the beginning, well alert of an ancient disbelief

amongst the public and private sectors (MacManus, 1992, Sinclair, 2000) and/ or of the incremental nature of public executions; specially in a very multifaceted inter and intragovernmental administrative systems (Peters, 1999). In sum, e-procurement has been increasingly introduced across public sectors in different countries, although possibly at a slower rate than anticipated. E-procurement policy aims to support greater transparency and efficiency in the procurement process in Ghana.

The step towards sustainable procurement in Ghana cannot be achieved fully without taking a closer look at initiatives and policies, some countries employed to attain sustained procurement. An example of such a country is Brazil. Since 1995, the government of Sao Paulo has employed strategies aimed at enhancing effectiveness and transparency in government procurement (Brauch, 2012). The primary technical and legal regulation on the implementation of sustainable standards in procurement was provided by a working group in 2004. The group comprised representatives from diverse segments of government, levels and areas. A legal framework that permitted for sustainable procurement was established by Sao Paulo throughout the first decade of the millennium. It encompassed, between other elements, the formation of an electronic procurement scheme and laws accounting for socio-environmental anxieties.

Ultimately, nine criteria for government policies and procedures were approved upon, comprising motivations to social policies, transparency, water and energy usage savings and adoption of technologies with lower greenhouse gas emissions (Brauch, 2012). The government similarly made a cautious exertion and investment to train public servants on sustainable procurement policies.

The sustainable procurement policy program by Sao Paulo, now comprises socioenvironmental standards in the technical specifications and contracts, using amongst other things tags nonetheless not yet life cycle analyses. In structure works, the sustainable procurement program emphasizes mostly on sustainability standards aimed at the usage of timber. To evade concerns about bribery, and improve effectiveness in the decentralized procurement structure, the state does not explicitly comprise socio-environmental standards throughout the opposite action (Brauch, 2012).

It does predict an authorizing administration aimed at non-compliance, which permits for the national administration to remove suppliers and facility providers that do not meet the terms with socio-environmental standards or requirement from public procurement, Whereas the national administration has progressive comparatively rapidly and with restricted properties, there left still a challenges and chances existing to level up sustainable public procurement. The sustainable procurement policy in reporting and accountability; specification of goods, services and structure works; socio-environmental responsibility of suppliers; contract monitoring and administration; and information exchange and distribution were the possible upgrading identified by IISD through their study. More or less real instance comprise the appraisal of sustainable acquisitions over the total value of acquisition to ration the paybacks of sustainable procurement policy, internalizing at the national level the preferential prominence of goods with the socio-environmental label, improving socio-environmental and excellence standards for the pre-qualification of suppliers, and consolidating information exchange with national, districts and municipalities (IISD, 2013).

Ghana thus has a very good example in Brazil to learn from since Ghana is battling with corruption issues at the various ministries and departments, issues such as high cost of

advertisement, membership of the Procurement board, lack of qualified procurement personnel, slow pace of regularizing the draft regulations and the lack of clear procedures for emergency procurement are issues currently facing or lapses in the current procurement Act (663) (Dabaga, 2013).

However, the newly amended Act 914 sought to reduce administrative costs and enhance efficiency on all review tender boards with the exception of the central tender review committee. The amendments also addressed other administrative challenges and introduced enabling provisions for policy initiatives such as Sustainable Public Procurement, framework contracting and e-Procurement (GNA, 2016).

2.8 The Emission Effect

Sustainable procurement cannot be effectively achieved, without taking into consideration, „a low carbon Economy“. The issue of sustainability was advanced through the lens of energy effectiveness by an Indian-specific study. It was established that, although sustainable public procurement was not yet a notion, usually recognized and assimilated into policy, more or less sustainability practices beforehand existed in procurement policies. Whereas the private sector saw green procurement as expensive, they recognized energy effectiveness in specific as a measure that can create both public and private gains. The survey establishes that, integrating energy effectiveness into procurement was not a cognizant sustainable procurement policy measure nonetheless relatively was influenced and motivated by inward and outward factors. Supervisory obstruction was established to be one of the key challenges to adopting energy effectiveness in the procurement procedure. The survey also establishes that, the outsourcing of public procurement procedure might lead to impediments in guaranteeing that energy

effectiveness or other environmental standards are truly accepted within the procurement procedure. (IISD, 2013)

On the other end of the procurement association, the suppliers ability to deliver energyefficient alternatives is in more or less businesses challenge by absence of resources and ability to decide which manufactured goods is more energy efficient than others. Enabling tools such as ratings, calculators, codes and monitoring documents can aid in this esteem as suggested by stakeholders. It has also been established by the survey that, there are not sufficient adequate motivation for corporations to take on effectiveness measures, which is regularly even disheartened.

Most of the policies already mentioned are captured in the Swiss- Ghana sustainable public procurement project. This is a three year project, being carry out by the Swiss Government with a \$2.7 million grant. The project's aim amid other things is to advance the public procurement practices of the Government of Ghana by presenting sustainable public procurement. Through the Marrakech process, Ghana has been encompassed for the past few years in the arena of sustainable public procurement.

The process of introducing sustainable public procurement has been led by Ghana Task Force on sustainable Public procurement-a-multi-stakeholder group. Development of Government Policy on sustainable Public Procurement; Training of procurement officers, practitioners, consultants on sustainable procurement policies; (Sallas-Mensah, 2013).

Awareness formation programs for public institutions, procurement practitioners and procurement boards of sustainable public procurement; Re-design of standard tender documents and last but not the least, training private sector on sustainable public procurement.

The government must move a step further in adopting sound programs and policies of countries that have achieved great strides in achieving sustainable procurement (Sallas-Mensah, 2013). The government has to put in place programs to curb corruption in the public procurement process in Ghana, as well as making Green procurement one of its policy priority areas.

2.9 The Way Forward

This sub-section is envisioned to emphasize guidelines that would manage upcoming research on the theme of sustainable procurement. Even though present processes display considerate and approval of the sustainable procurement notion and its associated fundamental, there has been less consideration in studying exactly how the proper procedures must be optimized on behalf of organizational strategy and operations (Jensen, 2011). It is vague just by what means the three components (economic, social and environmental) ought to network optimally particularly on behalf of procurement decision making and execution purposes (Jones et al., 2006; Walker and Hampson, 2008).

The author advocates for a performance measurement mechanism to measure the direct or indirect influence on sustainable procurement practices and show that organizational performance is still lacks the fundamentals. This to some magnitude clarifies why sustainable procurement has continual to lack full recognition in operational commercial practices in Ghana.

It is added investigative that such sustainability initiatives as sustainable procurement have been an achievement in EU and UK where there are approving legal (and policy or legislation) outlines (Kennard, 2006). There is no perceived study nevertheless, to clarify whether the absence or insufficiency of sustainability concentrated plans relates well with the finite

sustainable procurement practices in Singapore and the author will recommend a suitable code or legislation for monitoring.

To do well with sustainable procurement there is the necessity to make sure that there are drivers outside of the private and public sectors (Grönroos, 2011). We need to motivate private sectors players – services providers; contractors and suppliers driven initiatives (Jensen, 2011). A good number of governments have signed up to sustainable principles and their commitments within the next decades towards to the Johannesburg Summit 2002 on Sustainable Development. Some global supervisory and economic organizations brand environmental and sustainable policies a corner stone of providing support (such governments need to apply the directives of those policies and legislations internally and not just through socially conscious organizations and worldwide contracting operators).

Nowadays, good notching for environmentally friendly bids would dishearten the inexpensive possibility of lowermost bid wins, which would not necessarily assist a sustainable approach. Similarly, we need to lead and coax other sub-divisions of the mining sector into selfregulation and retain imposed regulatory and legislation frameworks (Jensen, 2010) to a minimum (Tucker and Pitt, 2008; Grönroos, 2006; 2011).

Like in the UK, the set up by the UK Government“s for a sustainable procurement Task Force helped identified the following key concerns to assist both the public and private sectors just before founding, at a process level, approaches of enhancing procurement practices to brand sustainable procurement come to pass as the important behavioural and operational transition alignments to be addressed to bring forth the path to sustainable procurement (Kennard, 2006).

They identified five key concerns as:

- Individuals
- Policy
- Plan and Communications
- Procurement Procedure
- Appealing Suppliers and Measurement and Results

Source: DEFRA (2006; 2007)



CHAPTER THREE

METHODOLOGY

3.1 Introduction

This study was fundamentally descriptive in nature, the rationale of which was to look at the challenges with the implementation of Sustainable Procurement in the mining sector. In sight of the topic, this chapter points out the research techniques used in gathering information for the study. It though, made up of research plan, data sources, population study, the sample size and method, the nature of information gathered, research tool that were used and statistical methods used to analyzed the data.

According to Ghauri and Grönhaug (2005), the term methodology denotes the structured sets of measures and tools by which research is carry out. It is an arrangement in which proofs are cataloged, documented and interpreted in a research. Qualitative and the Quantitative

researches are two essential procedural approaches to which diverse studies might logically lend themselves. Whereas qualitative research is more descriptive, quantitative research more often depicts presumption established on numerical systems and often represented by the use of charts or graphs and figures when being analyzed.

3.2 Research Design

According to Robson (2010), an exploratory survey is a precious way of discovering what is taking place; to look for modern perceptions, to pose inquiries and to evaluate occurrences that can be observed in an innovative view. It is recognized to be uncomplicated and malleable to modification. In this research, the method for obtaining of data was centered on quantitative researches. This is to emphasize that the deliberations were fundamentally review data that was characterized by observation and experiment instituted by works connected to the topic contained by the literature.

Cooper & Schindler (2003), also define research survey plan as a design and arrangement of researches intended to get answers to an investigation question. The major purpose of the research survey plan is to make sure that the information gathered talks about the investigative survey questions and the purposes of which it was conducted.

3.3 Population

A distinct gathering of entities or items recognized to have similar characteristics is identified as a research population. All entities or items surrounded by a certain population more often than not have a familiar, requisite feature or indication. Generally, the explanation of the population and the familiar requisite feature of its constituents are equivalent.

The study population is a distinct cluster of entities which can be deemed as a population and all the constituents of this population possess unique similarities. The population for this study is the mining sector of Ghana specifically the Western Region.

3.4 Sample Size and Sampling Methods

In the primary research, the study performed a survey on 50 officials (both Staff and Managers) from the various departments of the companies. Simple random sampling method was engaged in choosing the respondents. The choice of the staff and Managers was made by means of purposive process of selecting for the reason that they accepted the offer to partake in the study.

3.4.1 Sampling processes

Questionnaires were designed to bring out answers on the core issues analyzed during this research to collect primary data. Subsequently, a direct research was conducted to analyze how significant the instrument is. The response from the questionnaire was customized to eliminate indistinct and ambiguous questions. The questionnaires were administered in the offices of the companies to Staff and Departmental Managers. Further, I utilized face to face random distribution to Staff. An achievable sample of fifty (50) questionnaires responses was targeted and achieved. The questionnaire involved questions that extracted information on demographic profile of the respondents of the companies, to identify challenges with the implementation of sustainable procurement within the mining sector.

Secondly, evaluate the current state of sustainable procurement practices in the sector and to assess the critical success factors for enabling sustainable procurement practice.

The survey took on merely probability process of sampling technique to stretch out to the variety of respondents. The possible techniques will consequently consist of purposive and simple random procedures. The underlying principle for these methods or the preferred techniques is as a result of the truth that the research will be in view of diverse process of sampled population and will require diverse techniques at every group to attain the correct facts from all unit. The main objective for the procedure is to attain a reasonable representation of sample from the diverse population and in the conclusion facilitates a perfect finish of the survey. The probability techniques will adopt simple random sample techniques whereas the non- probability procedure will be purposive.

3.4.2 Sample Size

This defines a group of people recognized or entities contained by the population that have been acknowledged to be surveyed. These group of people recognized are to be studied and also interviewed or in charge of responding to the questionnaires or giving facts for the survey. According to Israel (2012), sample size for a study can be determine using; (a) figures in Published tables (b) Sample size of similar studies (c) A census for small populations and (d) Formulas. In this study, census for small populations was used (Stoker in Strydom and De Vos (1998: 192). Hence the sample size for the six selected mining firms is 50. Since a purposive sampling technique was used and in order to ascertain quality in responses. Hence, the questionnaires were administered to some selected departments which are: procurement, finance, human- resource, marketing and maintenance departments.

3.5. Instrumentation

According to McDaniel & Gates (2008), all types of research was achieved or made successful when researcher administers questionnaire, the general approach in the order of all data

gathering techniques. A set of designed questions which was purposely intended to produce the data which is essential to achieve the objectives of the research project is termed questionnaire; it serves as proper to-do list that helps researcher to gather the necessary information from respondents for his study. This list of inquiries or questions administered also serves as a way of bringing forth the way of thinking, viewpoints, experiences, observations, or general feelings of a number of characters. Tools for gathering data may possibly be structured or unstructured.

The questionnaire is most frequently a very concise, preplanned set of questions designed to yield specific information to meet a particular need for research information about a pertinent topic. These survey facts gathered are achieved from the questionnaires answered generally from an associated concerned locality. The following are quite a few kinds of questionnaire for instance Postal or Mail questionnaire, self-administered questionnaire. The research being undertaken used the self-administered questionnaire as the most suitable procedure for gathering data.

McDaniel and Gates (2008), denotes that, a self-administered questionnaire is a list of inquiries answered by means of no meeting for asking questions. The self-administered questionnaire has the same similarities of drop-off questionnaire. From (Burns & Bush, 2006) perspective, a drop-off questionnaire is at times known as „drop and collect“ or 'let go and gather', wherein the delegate deals in particular with the respondents, brings in the widespread reason for the assessment, and questionnaire is left with the respondent to complete them on their own.

Structured questionnaires are the tools used for gathering data during data gathering process.

These tools were employed during data gathering from the clients in addition to companies' officials'. These questionnaires contained closed ended questions. Questionnaires were consisted of closed ended questions that cut-across areas such as satisfaction with using the companies' procurement rules, practices and procedures. This was to make possible the answerers to decide on choice of responds known in addition to putting across their opinion concerning the subject matter. In all one type of questionnaire was used. This was to enable the researcher cover a broader area for better deductions and analysis.

3.5.1 Research Instrument Administration

Prior to questionnaires administration, an official message was written to where the survey was to taken place giving explanation on the reason why the survey is being carried out, and the way information got would be make use of. Being touch with the respondent prior to giving out the inquiry lists makes it easy to boost the reply standard, and addressed moral concerns. The researcher administered questionnaires when those who were to respond to the questionnaire were all going about their normal business transactions. Self-administered interviews that were conducted were done through the use of questionnaires, Validity of a research is to prove its authenticity and what the findings are truly appear to be about. This study's authenticity is apprehensive with regard to the possibility that the outcomes would be actually be in relation to that which comes into view with what was projected. In favor of confirmation of truthfulness intentions, an advance test on the questionnaire was firstly performed on a number of Staff to check the facts attained from the inquiries and the period during which the study would be accomplished. Once all the questions on the questionnaire had been responded to, the respondents were appealed to for sharing their propositions and modifications which would also provide assistance to reexamining the survey/interview

questions' subject matter to discover the tool's dependability in order to find out nonapplicable questions needed to be gotten rid of.

3.6 Methods of Data Collection

According to Jain (2008), methods of data collection refers to as the method of gathering facts from the respondents using several means. Herein the thesis, principal or primary survey data was gathered by means of using questionnaire design. The two kinds of data gathering procedures used in the study are principal or primary and subordinate or secondary.

3.6.1 Simple Random Procedure of Selection

To study companies' employees, the simple random procedure of selection was used. This procedure stands to be the utmost and simplest of the likelihood plan of selection. The random selection procedure is the easily-understood random selection and also that on which additional kinds of selection are designed. The members of the inhabitants or population (N) of interest are numbered and a number (n) of them are sampled by means of random numbers devoid of substituting or replacing them. The constituents or objects are all possible to take place. In simple random selection, a study develops a precise selection make up or frame, selects constituents or elements from selection frame in relation to arithmetically random procedure, then finds the particular component that was chosen to be included in the selection. The researcher numbers every elements within the selection frame after which the selection is done using a list of random numbers without replacement.

3.6.2 Purposive and Simple random Selection

This survey included the purposive selection method to choose the six (6) mining companies for the study. The respondents were also selected using simple randomly sample. The researcher selected any Staff who was at duty. The researcher picked or selected respondents that could offer answers to the study questions because of an in-depth knowledge and experiences they have on the issue of study.

3.7 Kinds and Sources of Data Gathered

In this research, two types of data were gathered, that is, primary or principal and secondary or subordinate data. Primary data was obtained by means of staff study whereas secondary data was obtained from company's yearly reports. These were used to find out about how the companies were addressing the issues of their procurement activities and how it impacts on corporate performance. The primary or principal data was gathered using the organized questionnaire from the staff as well as the company officials. Data gathered from direct experience.

3.7.1 Primary or Principal Data

According to Jain (2008), Primary or Principal Study comprises securing unique or direct data from the research subjects at hand. Herein the thesis, Primary or Principal Data would be gathered. This is a data that has under no circumstances ever been gathered, either in somewhat way, or at any length of time. Primary data was gathered from respondents by means of a well-organized questionnaire. Observation was made by the researchers in the companies that were used to solicit information. Using primary data, the researcher has an advantage of gathering information for the exact goal of the survey. In essence, the questions the researcher inquired

are designed to produce the data that will aid him in the study. The researcher gathers the data himself, by means of survey and direct observations. Primary data proposes designed information, however, tends to be costly to undertake and takes a lengthy period of time to process.

3.7.2 Secondary or Subordinate Data

According to McDaniel & Gates (2008) Secondary or Subordinate data comprises of information that has earlier been collected and might be appropriate to the issues at hand. It is extremely not likely that any research problem is wholly exceptional or has by no means ever happened. Thus, secondary data can be an economical and well-organized way of attaining info for researchers. McDaniel and Gates (2008) again stated that, marketing researchers use secondary information for the reason that it can be attained at a portion of the cost, time, and problems related to primary data gathering.

Secondary data were gathered from the literature works of other people. This comprises writings from textbooks and the internet or global computer network sources. It was essential to gather data from these sources in view of the fact that it aided in adding to the researcher's research results. Secondary data were gotten from reports, books from different kinds of schools Library and Internet sources, and published articles that had a connection with the Survey purposes. These writings were assessed to compare the discoveries of the survey with that of earlier studies in Ghana and somewhere else. Secondary data have a tendency to be readily available and inexpensive to obtain. In addition, secondary data can be examined over a longer period of time. In an example, McDaniel and Gates (2008) stated that, one can look at a company's lost-time rates recorded over a number of years to

perceive the trends.

3.7.3 Interview

The interview was used widely to supplement and extend researchers' knowledge concerning individual(s) ideas, emotions, conducts, meanings and interpretations. The interviewer collects thorough personal information from individuals more often than not in one-to-one circumstances using verbal questions. Great quantity of important gathered facts concerning the experiences of others were gathered by asking questions that focused its attention on the study or conversing with people. In an approach like this, preferable or more advantageous answers are given to some study questions. Interviews, especially unstructured or semi-structured ones, provide the researcher the ability to make changes to interview questions according to circumstances.

An important aspect of the semi-structured interview is in the partly pre-planning of the inquiries. Semi-structured interviews nevertheless permit for the process of repeating the interview with others, however, has limits or restrictions. Semi-structured interviews might perhaps be carried out in different kinds of approach: either face-to-face, by telephone or by videophone, however, face-to face is likely to be the most excellent.

3.8 Data Processing and Analysis

The generated data from the study was analyzed qualitatively. Excel charts and tables as well as the latest Statistical Package for Social Sciences (SPSS)/PC software was used in processing the data gotten from questionnaire; variables were coded and entered into the computer. The data was categorized into groups before it was examined in great detailed to way for the data to be able to be worked on and for uncomplicated assessment and arrive at

conclusions. Descriptive statistics for instance percentages were used to make the results evident. The two methods in the analysis; quantitative and qualitative approaches emphasized more on quantitative methods.

As stated by Creswell (1994), quantitative research emphasizes on analyzing a problem buttressed on testing a theory and evaluating it using statistical procedures. We used descriptive statistics also, for instance Percentages and frequencies by the use of Statistical Package for the Social Sciences (SPSS) version 20.0. The assessment was done based on careful Survey which consisted of a single-random variable assessment.

3.8.1 Validity and Reliability of the Survey

The survey's reliability test was carried out by using Cronbach's Alpha. The alpha value was 0.87 which indicates a greater height of internal consistency. It was chosen and decided upon to represent internal consistency of the survey desired outcomes. The survey's validity was also completed by making comparison between the findings and earlier findings of other surveys.

3.8.2 Taking Ethics into account

Written and Oral acceptance was provided for respondents of the study questions to read and make a decision whether they will participate in the survey. Researcher did seek permission from the companies Heads where data was to be gathered from. The confidentiality in the study is paramount to the greatest degree not to reveal information that may be acquired in this study; the self-essential character that identified the respondents of the study questions were concealed and not revealed to whichever other person.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter deals with the exhibition of data collected and the analysis. It analyzed into four sections and the analysis done was in accordance with the stated objectives for the thesis.

4.2 Section A: Demographic Information

This section sought to solicit information on the respondents. It was to ascertain some demographic information and the credibility of the respondents who were sampled for the study. Analysis was done with variables such as their department of work, educational level, years of service in the organization. The analysis showed that 68% of the respondents were from the procurement department which is an indication of their ability to give firsthand information on procurement activities. It was also observed that educational level in majority of 60% for degree holders was indicative of qualified respondents for the survey. According to the study there was an observation of 54% majority responses for those who have served between 5-10 years in the organization as shown in Table 4.3 below.

Table 4.1 Department

RESPONSE	FREQUENCY	PERCENTAGE (%)
Procurement	34	68
Finance	6	12
Maintenance	5	10

Marketing	3	6
Human Resources	2	4
Total	50	100

Source: Field Survey, 2016

Table 4.2 Educational Level

RESPONSE	FREQUENCY	PERCENTAGE (%)
Doctorate	1	2
Masters	5	10
Degree	30	60
Diploma	11	22
Others	3	6
Total	50	100

Source: Field Survey, 2016

Table 4.3 Years of Service

RESPONSE	FREQUENCY	PERCENTAGE (%)
Less than 5 yrs	17	34
5-10 yrs	27	54
10-15 yrs	4	8
15 yrs and Above	2	4
Total	50	100

Source: Field Survey, 2016

Table 4.4 Nature of Procurement Activities

RESPONSE	FREQUENCY	PERCENTAGE (%)
Daily	32	64
Weekly	8	16
Monthly	7	14
Quarterly	1	2
Annually	2	4

Total	50	100
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Source: Field Survey, 2016

In Table 4.4 above which indicates the nature of procurement activities carried out by the firms showed a 64% majority for daily procurement. This assertion demonstrates that the firms undergo procurement on daily basis and therefore respondent would be able to better understand the rudiments in procurement activities and hence divulge the needed information accordingly.

4.3 Section B: Challenges in Implementation of Sustainable Procurement

The Section B sought to look at some inhibitions to the implementation of sustainable procurement in general. Issues such as firms' engagement in sole sourcing, competitive bidding, the consideration of environmental issues during procurement, awareness and knowledge in Sustainable Procurement Practices and whether procurement is done in accordance with the Public Procurement Act, 2003 (Act 663) were all discussed.

From Table 4.5 below; engagement of the firms in sole sourcing had a majority response (sometimes) of 68% which asserted that sole sourcing was minimally done. It was done under emergency situations or done when goods and services are not that much in terms of quantum. Table 4.6 below; was indicative of the fact competitive bidding is what is always practiced with a majority of 44%. It was observed that competitive bidding is what is usually used as a cost effective way of procuring and also ensured value for money. Competitive bidding is done to avoid issues of overpricing of goods and services which is seen as an avenue for corruption in procuring. The nature of mining operations makes it inherent to always consider environmental concerns in procuring. This is one of the pillars in ensuring Sustainable Procurement and from Table 4.7 below; it had a majority of 64% to assert this opinion. An

observation of 38% majority strongly agreed to the fact that the procurement done by these firms was done in accordance with the PPA from Table 4.9 below; and that regulations on the execution of procurement conformed with laid down guidelines enshrined in the PPA which is the mother law for the conduct of procurement. Table 4.10 below; observed a majority response of 44% on the awareness and knowledge of sustainable procurement.

Table 4.5 Engagement in sole sourcing

RESPONSE	FREQUENCY	PERCENTAGE (%)
Never	0	0
Sometimes	34	68
Often	11	22
Always	5	10
Total	50	100

Source: Field Survey, 2016

Sole sourcing per the analysis was 68% sometimes done and this was explained by the fact that since procurement is done on daily basis (refer to Table 4.4 above) there was the need to procurement equipments in emergency situations and also due to the fact that any delays of such procurement will affect productivity greatly. However a minority of 10% held a contrary opinion of always embarking on sole sourcing which also gives room for much bribery and corruption.

Table 4.6 Engagement in competitive bidding

RESPONSE	FREQUENCY	PERCENTAGE (%)
Never	2	4
Sometimes	12	24
Often	14	28

Always	22	44
Total	50	100

Source: Field Survey, 2016

A 44% majority asserted that competitive bidding was always carried out in their procuring activities since they were of the opinion that to ensure proper value for money by doing due diligence to processes and procedures, it acts as a cost minimization tool. One can minimize cost to make some savings and also achieve value for money. 28% often embarked on competitive bidding while 24% sometimes did embark on competitive bidding. In addition, 4% never embarked on competitive bidding and the assertion was that, the processes were lengthy and that any delays will hamper production which will affect revenue and looking at the capital intensive nature of the sector, this would not make business sense.

Table 4.7 Consideration of Environmental issues in Procurement Practices

RESPONSE	FREQUENCY	PERCENTAGE (%)
Never	0	0
Sometimes	8	16
Often	10	20
Always	32	64
Total	50	100

Source: Field Survey, 2016

Table 4.8 Sustainable Procurement Decisions

RESPONSE	FREQUENCY	PERCENTAGE (%)
Never	1	2
Sometimes	12	24
Often	16	32

Always	21	42
Total	50	100

Source: Field Survey, 2016

Table 4.9 Procurement Practices done in Accordance with the Public Procurement Act

RESPONSE	FREQUENCY	PERCENTAGE (%)
Agree	18	36
Strongly Agree	19	38
Disagree	9	18
Strongly Disagree	4	8
Total	50	100

Source: Field Survey, 2016

Table 4.10 Awareness and Knowledge in Sustainable Procurement

RESPONSE	FREQUENCY	PERCENTAGE (%)
Agree	14	28
Strongly Agree	9	18
Disagree	22	44
Strongly Disagree	5	10
Total	50	100

Source: Field Survey, 2016

From Table 4.7 above, a majority of 64% made the assertion that environmental consideration was inculcated in procurement practices. This assertion buttresses the point that sustainable procurement is well recognized as a measure in achieving sustainable development since it is one of its pillars. There was a 20% for often and a 16% response for sometimes. However, there was no response for never and this asserts the point that mining firms do consider environmental concerns in one way or the other in their procurement practices. Also from

Table 4.8 above, a majority response of 42% was ascertained for firms always making sustainable procurement decisions. 32% often made sustainable procurement decisions, 24% sometimes made sustainable procurement decisions and 2% never made sustainable procurement decisions. Once a firm considers environmental issues in its procurement practice, it is inferably making sustainability decisions and hence embarking on sustainable procurement. Also from Table 4.9 above, 38% majority strongly agreed to practicing procurement in accordance with the Public Procurement Act, 2003 (Act 663), 36% agreed, 18% disagreed and 8% strongly disagreed to such a variable. From Table 4.10 above, a majority response of 44% asserted that there is no awareness and knowledge on SP from their perspective. 10% strongly disagreed, 28% agreed and 18% strongly agreed to the awareness and knowledge on SP.

Table 4.11 Showing Challenges to Implementation of Sustainable Procurement

Challenge/Scale	Very Low (%)	Low (%)	Moderate (%)	High (%)	Very High (%)	Frequency (%)	Total (%)
ICT difficulties engulfing the firm	20	14	32	22	12	50	100
Low technical and Management capacity	16	28	26	24	6	50	100
Political interference	40	24	12	22	2	50	100
Consumer Perception	4	16	40	36	4	50	100
Innovation	2	18	34	34	12	50	100
Low remuneration and increased cost	12	18	26	28	16	50	100
Regulation and Governance	4	14	44	26	12	50	100
Inadequate funding	18	24	28	18	12	50	100

Lack of quality personnel and logistics	20	30	18	20	12	50	100
Awareness and training on Sustainable Procurement	14	16	40	30	12	50	100
Climate Change	12	36	34	8	10	50	100
Waste disposal Management	8	24	38	10	20	50	100

Source: Field Survey, 2016

4.4 Section C: Evaluating the Current State of Sustainable Procurement Practices in the Sector

Table 4.12 Relationship between Organization and Suppliers

RESPONSE	FREQUENCY	PERCENTAGE (%)
Very good	19	38
Good	24	48
Moderate	7	14
Low	0	0
Total	50	100

Source: Field Survey, 2016

Table 4.13 Supplier Involvement

RESPONSE	FREQUENCY	PERCENTAGE (%)
Agree	27	54
Strongly Agree	20	40
Disagree	3	6
Strongly Disagree	0	0
Total	50	100

Source: Field Survey, 2016

Table 4.14 Proper Standards, Procedures and Processes on SP in Procurement Agreements

RESPONSE	FREQUENCY	PERCENTAGE (%)
Agree	20	40
Strongly Agree	23	46
Disagree	7	14
Strongly Disagree	0	0
Total	50	100

Source: Field Survey, 2016

From Table 4.12 above, the relationship between the organization and its suppliers was established to be good with a response of 48% and a very good response of 38%. A 14% response went for moderate. According to the analysis, the relationship between the organization and its suppliers when good may stem out of suppliers having to live up to the expectation of the organization and vice versa. Table 4.13 above; asserted a 54% majority agree response for supplier involvement, 40% strongly agree, and 6% disagree response. Whiles a majority response of 46% strongly agrees that the proper standards, procedures and processes are complied with in procurement agreements. A further 40% agree and 14% disagree to that assertion.

Table 4.15 Showing an Evaluation of the Current State of SP in the Mining Sector

Practice/Scale	Highly relevant (%)	Irrelevant (%)	Somewhat relevant (%)	Relevant (%)	Very relevant (%)	Frequency (%)	Total (%)
Green Procurement measures	0	16	24	30	30	50	100
Regular monitoring, control and reviews	4	10	10	36	40	50	100
Standardized guidelines for dangerous goods	6	2	10	22	60	50	100
Understanding and managing risk through supply chain	6	2	14	38	40	50	100
Embedding sustainability in procurement	4	6	12	48	30	50	100
Utilization of data and supply chain intelligence	4	2	12	44	38	50	100
Relationship with suppliers to strategically drive sustainability	4	4	14	36	42	50	100
Social incentives in SP practices	8	10	30	36	16	50	100
Regular training for staff	2	16	18	32	32	50	100

Source: Field Survey, 2016

4.5 Section D: Critical Success Factors for Enabling Sustainable Procurement

Table 4.16 Showing Critical Success factors that enable the Implementation of SP

Critical Success factor/Scale	Very Low (%)	Low (%)	Moderate (%)	High (%)	Very High (%)	Frequency (%)	Total (%)
Tracking, monitoring and Reporting	4	4	30	30	32	50	100
Awareness and Capacity	2	8	24	46	20	50	100
Centralized inventory management system	2	14	14	32	38	50	100
Measuring Supplier Performance	2	10	18	36	34	50	100
Policy framework and clear objectives	0	10	22	44	28	50	100
Sustainability expertise	0	10	20	44	26	50	100
Increased cost savings	0	18	14	22	46	50	100
Resource Availability	0	6	28	26	40	50	100
Continuous Improvement	2	2	24	30	42	50	100
Motivation and Incentives	8	18	34	26	14	50	100
Interdepartmental Coordination	10	0	28	34	48	50	100

Source: Field Survey, 2016

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the study, conclusion and recommendations.

5.2 Summary of Findings

The study sought to look at challenges to the implementation of sustainable procurement in the mining industry. It sought to analyze some selected mining firms in the Western Region of Ghana. The study set out to identify these challenges to implementation, evaluate the current state of SP and to assess the critical success factors that enable the implementation of SP.

The study was undertaken not only as an academic exercise, but also find ways by which both public and private firms in the mining sector can mitigate implementation challenges to ensure “green procurement” and also enormously reducing the risk relative to it.

5.3 Key Findings

- The study revealed that engagement in sole sourcing was minimal and that competitive bidding is always done by the firms. Also, sustainable procurement decisions are always made and that environmental issues are inculcated in procurement practices (Table 4.8 and Table 4.7 above respectively). Furthermore, awareness and knowledge in sustainable procurement is very minimal. Procurement is done in accordance with the Public Procurement Act, 2003 (Act 663) to ensure that due diligence is followed to achieve value for money. However, the amended procurement Act 914 (2015) brings out some more innovations such as framework contracting, sustainable public procurement and eProcurement and hence organizations need to sensitize themselves on it.

- The study also revealed in Table 4.11 above, that ICT difficulties with the firm; Consumer Perception, Innovation; low remuneration and Increased cost; regulation and governance; lack of quality personnel and logistics, awareness and training on SP innovation; lack of quality personnel and logistics; inadequate funding are all high challenges to implementation of SP. Whilst, Political interference; low technical and management capacity; lack of quality personnel and logistics; inadequate funding and climate change are very low according to the data analysis. However, waste disposal management, is a challenge which is moderate.
- The study also revealed in Table 4.15 that social incentives in SP; standardized guidelines; understanding and managing risk; embedding sustainability; utilization of data and supply chain intelligence; relationship with suppliers; and regular monitoring, control and reviews are highly relevant in the mining sector whilst regular training; and green procurement measures are very minimal or irrelevant in one way or the other.
- The study also further revealed in Table 4.16 above, that interdepartmental coordination; increased cost savings; continuous improvement; resource availability; centralized inventory management; measuring supplier performance are major critical success factors whilst policy framework and clear objectives; sustainability expertise; awareness and capacity building are very low.

5.4 Conclusions

5.4.1 Objective One: Challenges in Implementation of Sustainable Procurement

Procurement has evolved progressively and has moved from its traditional practice to

Sustainable practices hence firms ought to be in synchronization with sustainability. Processes, procedures, guidelines, standards and practices should be in conformance with the PPA, Act, 2003(Act 663). The environmental push across the world to achieve sustainability due to issues of climate change which has caused global warming, reforestation and reclamation of mined sites, pollution must be adopted.

Challenges such as consumer perception, innovation, low remuneration, regulation and governance have all characterized the conduct of procurement so there is therefore the need to inculcate sustainability provisions and guidelines into the PPA Amended, 2015 (Act 914) curb or as a measure to mitigating the challenges to implementation of Sustainable Procurement. Both Public and Private Firms should satisfy all requirements or laid down criteria before executing procurement practices. It is when this is done that the challenges to sustainable procurement can be minimized drastically or eliminated to force the environmental push.

5.4.2 Objective Two: Evaluating the Current State of Sustainable Procurement The awareness and knowledge of this new phenomenon is key to sensitizing organizations, employees and the general public on the strict compliance of the PPA. Act, 2003 (Act 663). Currently amendments have been made to PPA 663 into PPA 914 (2015) of which issues of tendering, inculcating deeper sustainable public procurement, framework contracting among others are been addressed.

5.4.3 Objective Three: Critical Success factors for enabling Sustainable Procurement Critical success factors such as increased cost savings, resource availability, continuous improvement, interdepartmental coordination, centralized inventory management system among others would breed bribery and corruption if there the lack of compliance with respect

to standards and guidelines in organizations which would mean revenue loss. Hence commitment to processes is very imperative. Suppliers and the organizations have to foster cohesion and unity to ensuring quality and corporate credibility.

5.5 Recommendations

From the study, the following recommendations can be made;

- It is recommended that competitive bidding as a practice ought to be further encouraged as a means to eschewing bribery and corruption and ensuring that the due diligence is done to procurements. This will minimize cost and also achieve value for money.
- Also government should take steps to make amendments and include provisions on sustainability in its procurement policies and also sensitive organizations and institutions on it.
- Awareness and knowledge on SP in mining organizations need to be boosted through proper training including workshops and seminars to sensitize employees and educate them on the rudiments and benefits of sustainable procurement as well as on the newly Public Procurement Amended Act ,914 (2015).
- Technology should be boosted and upgraded to eliminate ICT challenges.
- Adequate and qualified personnel with the appropriate remuneration and logistics ought to be employed to ensure that they have sufficient expertise in this field.
- Waste disposal management measures ought to be enhanced to ensure and curb environmental concerns such as land degradation and pollution.
- Relationship between suppliers and the mining firms has to be enhanced to ensure that the clear stated objectives and expectations are met on timely basis.

- Tracking, monitoring, reviews and controls should be boosted to ensure that the necessary checks and balances on sustainable procurement are facilitated. Issues of accountability, transparency and fairness in procurement activities will be ascertained.
- Constructing a sustainable supply chain for the future.
- Manage risk and reputation.

5.6 Areas for further Study

In the furtherance of the knowledge and literature on SP, areas such as Sustainable Procurement as a tool for achieving Organizational Productivity in the Mining Sector; Environmental Accountability through Sustainable Procurement; An Analysis of the effects of Bribery and Corruption on Sustainable Procurement; and in addition, an extension of this research can be conducted in other mining regions to analyze the discrepancies in Sustainable Procurement nationwide.

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APPENDIX

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF ART AND BUILT ENVIRONMENT

DEPARTMENT OF BUILDING TECHNOLOGY

TOPIC:

CHALLENGES WITH THE IMPLEMENTATION OF SUSTAINABLE

PROCUREMENT PRACTICES IN THE MINING INDUSTRY

QUESTIONNAIRE

Sustainability as a concept has been inculcated through Sustainable Development Goals (SDG) which has been set by the United Nations to help curb or ensure environmental security. Hence there has also been the concern of making Procurement sustainable to help attain SDG. In the light of this, this research is purely an academic exercise and your opinions and responses will be treated with utmost confidentiality. Your anonymity is guaranteed whilst the information you provide will be used for the purpose of this research only. This is to broaden the scope of Sustainable Procurement (SP) particularly and sustainability at large.

SECTION A: DEMOGRAPHIC INFORMATION PLEASE

TICK OR FILL IN WHERE APPLICABLE

1. Please indicate your department in the firm?
Procurement { } Finance { } Maintenance { } Marketing { } Human
Resources { } Other, Specify
2. Your role in the department.....
3. Highest level of education? Doctorate { } Masters { } Degree { } Diploma { }
Other, Specify
4. Years of working in the mining sector?
Less than 5 years { } 5-10 years { } 10-15 years { } 15 years and above { }
5. Indicate how often procurement activities is undertaken in your firm? Daily { } Weekly
{ } Monthly { } Quarterly { } Annually { }

SECTION B: CHALLENGES IN IMPLEMENTATION OF SUSTAINABLE PROCUREMENT

6. a. How often does your company engage in sole sourcing?
Never { } Sometimes { } Often { } Always { }
- b. How often does your company engage in competitive bidding?
Never { } Sometimes { } Often { } Always { }
7. To what extent does your company consider environmental issues in procurement practices?
Never { } Sometimes { } Often { } Always { }

8. In your estimation, how often do officials make sustainable procurement decisions?

Never { } Sometimes { } Often { } Always { }

9. Do you think the implementation of procurement practices is done in accordance with the Public Procurement Act 2003, Act 663?

Agree { } Strongly Agree { } Disagree { } Strongly Disagree { }

10. Awareness and knowledge on Sustainable Procurement is very widespread in Ghana?

Agree { } Strongly Agree { } Disagree { } Strongly Disagree { }

11. On a scale of 1 to 5, where 1= Very Low; 2= Low; 3=Moderate; 4=High; 5=Very High, indicate to what extent the challenges below affect sustainable procurement.

Challenge/Scale	Very Low 1	Low 2	Moderate 3	High 4	Very High 5
ICT difficulties engulfing the firm					
Low technical and Management capacity					
Political interference					
Consumer Perception					
Innovation					
Low remuneration and increased cost					
Regulation and Governance					
Inadequate funding					
Lack of quality personnel and logistical limitations					
Awareness and training on SP					
Climate change					
Waste disposal management					

SECTION C: CURRENT STATE OF SUSTAINABLE PROCUREMENT

12. How will you describe the relationship between your firm and its suppliers? Very good {
 } Good { } Moderate { } Low { }

13. Is there enough supplier involvement in our sustainable procurement practices?
Agree { } Strongly Agree { } Disagree { } Strongly Disagree { }

14. Proper standards, procedures and processes on SP are spelt out in procurement agreements that are for both tender and contract documents.
Agree { } Strongly Agree { } Disagree { } Strongly Disagree { }



15. On a scale of 1 to 5 where 1= Highly irrelevant; 2= Irrelevant; 3= Somewhat relevant; 4= Relevant; 5= Very relevant, please rank the following practices according to the level of relevance in your firm.

Practice/Scale	Highly irrelevant 1	Irrelevant 2	Somewhat relevant 3	Relevant 4	Very relevant 5
Green Procurement measures					
Regular monitoring, control and reviews					
Standardized guidelines for dangerous goods					
Understanding and managing risk through supply chain					
Embedding sustainability in procurement					
Utilization of data and supply chain intelligence					
Relationship with suppliers to strategically drive sustainability improvements					
Social incentives in SP practices					
Regular training for personnel on sustainability processes					

SECTION D: CRITICAL SUCCESS FACTORS FOR ENABLING SUSTAINABLE PROCUREMENT

16. On a scale of 1 to 5, indicate which of the critical success factors of Sustainable Procurement listed below has the highest impact.

1= Very Low; 2= Low; 3=Moderate; 4=High, 5=Very High

Critical Success factor/Scale	Very Low Scale 1	Low Scale 2	Moderate Scale 3	High Scale 4	Very High Scale 5
Tracking, monitoring and Reporting					
Awareness and Capacity building					
Centralized inventory management system					
Measuring Supplier Performance					
Policy framework and clear objectives					
Sustainability expertise					
Increased cost savings					
Resource Availability					
Continuous Improvement					
Motivation and Incentives					
Interdepartmental Coordination					

17. In your opinion, what are some of the factors that can help a firm achieve Sustainable Procurement?.....

Thank You