

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,  
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**Promoting Sustainable Procurement within the Road Sector in Ghana: A case  
study of Department of Urban Road offices in Accra**

**By**

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Economics)**

**A thesis submitted to the Department of Building Technology, College of Art  
and Built Environment in partial fulfillment of the requirements for the degree  
of**

**MASTER OF SCIENCE**

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## DECLARATION

I hereby declare that this submission is my own work towards the MSc. Procurement Management 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 acknowledgment has been made in the text.

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## ABSTRACT

In most developing countries, there are no clear cut policies for Sustainable Procurement in the road sector (Ross, 2013). The Road Sector in Ghana is not an exception. The aim of the study seeks to help promote Sustainable Procurement (SP) within the road sector in Ghana with focus on Greater Accra. A questionnaire and interviews were the survey instruments employed for the study. A total of thirty-one (31) construction professionals who work in the Department of Urban Road (DUR) offices were used for the questionnaire survey while a total of six (6) heads, including one (1) contracts manager and one (1) head of quantity survey section at the regional office, of the DUR offices visited were interviewed. Using a convenience approach and purposive sampling technique, the target respondents and interviewees were civil engineers, materials engineers, geodetic engineers and quantity surveyors by profession. Using SPSS v16 and Microsoft excel, the data collected from the survey were grouped together and were analyzed, and the following observations and conclusions were drawn. From the findings it was realized that no policy document on sustainable procurement was in place that mandated Urban Road Offices to carryout sustainable procurement. Also, Sustainable Public Procurement (SPP) was most commonly perceived as economically responsible procurement and socially responsible procurement with little consideration given to environmentally friendly procurement. Political/ Cultural interference and Lack of Environmental Awareness among Society ranked as top barriers and challenges whiles Capacity building, Education and Training of Stakeholders and Collaboration with contractors in a way to achieve Sustainability ranked as top strategies to the promotion of Sustainable Public Procurement (SPP) in the Roads Sector of Ghana.

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## ACRONYMS

<b>DFR</b>	Department of Feeder Roads
<b>DUR</b>	Department of Urban Roads
<b>GDP</b>	Gross Domestic Product
<b>GHA</b>	Ghana Highways Authority
<b>GRF</b>	Ghana Road Fund
<b>GTF</b>	Ghana Task Force
<b>IISD</b>	Institute for Sustainable Development
<b>KTC</b>	Koforidua Training Centre
<b>MMDA</b>	Metropolitan, Municipal and District Assembly
<b>OECD</b>	Organisation for Economic co-operation and Development
<b>PPA</b>	Public Procurement Authority
<b>PPB</b>	Public Procurement Board
<b>PPDA</b>	Public Procurement and Disposal of Public Assets
<b>PUFMARP</b>	Public Financial Management Reform Program
<b>SECO</b>	Secretariat for Economic Affairs
<b>SPP</b>	Sustainable Public Procurement
<b>SME</b>	Small Scale Enterprises
<b>UNDP</b>	United Nations Development Programme
<b>GoG</b>	Government of Ghana

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I dedicate this work to my parents, Mr. Vincent Agbenyah and Miss Christiana Agbotse, my siblings; Lilian, Beatrice, Eugene and Celestine. I also dedicate it to my niece and nephews, Eugenia Agbenyah, Joel Nii Kwaku Ankrah and Kwesi Sai (the special one). Special dedication goes to my mentor, Mr. Edwin Tei and most importantly to the Almighty God who I serve.

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background of Study

Road networks are amongst the major assets of every country and its infrastructure offers both monetary and social advantages for people, the group, organizations and businesses. This facilitates merchandise and services to be provided conveniently, effectively and it enhances free movement of people (Forster and Mensah, 2013).

Forster and Mensah (2013) opined that road networks in urban areas are particularly important because these areas harbour more than half of the world's population and serve as a centre for businesses and many socio-economic activities which depend primarily on roads. The maintenance of roads enhances economic growth and social benefits whilst poorly maintained road system destructs mobility, increases the rate of accidents, and aggravates isolation, poverty and vehicle operating cost (Forster and Mensah, 2013).

Bash (2015) orated that, academics, not excluding practitioners often argue that issues in development ventures are frequently connected to lacking acquisition techniques and frameworks. The fixation is on fleeting individual advancement instead of on long haul venture execution and sustainability. To build the adequacy and efficiency of the development business, the advancement and nonstop change of obtainment techniques and frameworks is in this way vital.

Traditional procurement has its focal point on achieving value for money whereas Sustainable Procurement (SP) encompasses achieving value for money on an entire life cycle basis by considering the three pillars of SP ( i.e. environment, economic and societal considerations) related with the goods, works and services procured with the aim of reducing possible adverse impacts (Doh, 2014).

The Government of Ghana (GoG) is presently faced with monumental difficulties in infrastructure development and public service delivery. This compels the development of the economy of Ghana as the arrangement of infrastructure expansion and public services has distinctively been viewed as the sole duty of the Ghana Government (Ministry of Finance and Economic Planning,2011). The Government in so doing uses public procurement systems and laid down procedures to provide infrastructure expansion and public services in accordance with the Public Procurement Act.

Doh (2014) mentioned in his research, the Public Procurement Act 2003, Act 663, merely sought to address a few of the sustainable public procurement issues in (section 59 of Act 663) and recommended that the government ought to speed up the amendment of the Public Procurement Act and include sustainability prerequisites such as environmental, social and economic issues of sustainability in public procurement.

Sustainability concerns has gotten to be vital in countries' developmental agenda, it is presently time to move the center of developing countries' public procurement frameworks from for the most part immediate financial advantages to feasible open acquisition frameworks, which will deliver long haul advantages (Doh, 2014). Sustainable Procurement (SP), although having an undeniably prominent in arrangement hovers on the planet today, next to no is thought about the degree to which SP strategies and techniques are dug in inside the act of public procurement officers worldwide (Brammer and Walker, 2011). In the light of the coming into operation from 1<sup>st</sup> July, 2016, the Public Procurement (Amendment) Act 2016, Act 914 it is important to promote Sustainable Procurement practice in the Ghana's Road Sector.

The tenacity of the study therefore, is to help promote Sustainable Procurement within the Road Sector in Ghana with focus on Greater Accra.

## **1.2 Problem Statement**

The Road Sector of Ghana is currently faced with a maintenance deficit with a chunk of its budgetary distribution going into road maintenance works leaving scarce or no resource for the development of new roads that are sustainable and last longer (myjoyline.com, 2016).

In an attempt to halt the deterioration of several roads (nearly 1260km), that has not gotten any major maintenance for some time in Accra, the Ghana Government, through the Ministry of Roads and Highways, has begun a ‘Streets of Accra Project’ to increase the life span of roads in the capital of the country (myjoyline.com, 2016).

Owusu-Acheaw (2012) mentioned that, in spite of the fact that governments, past and present, have endeavored, streets are still harrowed with cracks, potholes, eroded segments of the streets, amongst others. The ‘Streets of Accra Project’ is projected to cover 76 km of roads in Accra and will be funded by a loan from the Brazilian government. Nonetheless, the construction of 76km roads out of 1260km is only 6.03% remedy to the assessed bad roads and this would not be the immediate solution to the 45% bad roads in the capital.

Owusu-Acheaw (2012) further opined that the problem goes beyond successive governments’ efforts to secure funds to develop extra streets and rehabilitate bad streets in Ghana and conducted a survey from a property management point of view.

However, it would be very prudent to explore the current condition of the constantly plagued roads in Ghana from the procurement perspective since acquisition of funds to implement projects is involved. Sustainable Procurement (SP) has become a

global concern and the Road Sector of Ghana cannot be left out this frame. With the new Public Procurement (Amendment) Act 2016, Act 914 seeking to address administrative difficulties and introducing enabling provisions for policy initiatives such as Electronic Procurement, Framework Contracting and Sustainable Public Procurement (SPP), it is very important to research into the area of Sustainable Procurement (SP) using the road sector as a case study.

This study would therefore help promote Sustainable Procurement (SP) within the road sector in Ghana with focus on Greater Accra and further outline the key barriers and challenges restraining the practice of Sustainable Procurement in the roads sector and identify strategies that could be adopted to bridge these gaps.

### **1.3 Research Questions**

The results and conclusions of the research conducted would answer the research questions below:

1. What is the nature of current Sustainable Public Procurement (SPP) in DUR Offices in Greater Accra?
2. What are the key barriers and challenges restraining the practice of Sustainable Procurement in the Road Sector in Ghana?
3. What procurement strategies that can be adopted to mitigate these identified barriers and challenges?

### **1.4 Aim of Study**

The aim of the study is to ascertain the current state of Sustainable Procurement (SP) at DUR Offices in Accra and suggest strategies that can promote sustainable procurement practice within the Road Sector in Ghana.

## **1.5 Objectives**

The objective of the study is to ensure that the following points listed below were fully addressed i.e.

1. To investigate the current nature of Sustainable Public Procurement in DUR Offices in Greater Accra.
2. To outline key barriers and challenges restraining the practice of Sustainable Procurement in the Road Sector in Ghana.
3. To identify strategies that can be adopted to mitigate these identified barriers and challenges.

## **1.6 Scope of Study**

The main focus of this study dwells within the Road Sector in Ghana with emphasis on projects that are executed under Department of Urban Road (DUR) Offices. Due to limited time and resource constraints, only DUR Offices located in the Greater Accra Region were visited for the survey and used as the case study area.

Also, due to the nature and complexity of the study been undertaken, the target respondents and interviewees were construction professionals who make procurement decisions at management level.

## **1.7 Methodology**

The survey was commenced by a thorough examination of existing literature on Sustainable Public Procurement (SPP) in the road sector to ascertain the bearing and tune by which the research should proceed. Secondary data will be sought through review of past literature on works related to the topic under study and will include statements of contribution to knowledge, books, articles, journals and various

internet sources. This enabled vital information to be gathered to solicit primary information through a questionnaire survey and a semi-structured interview on the areas of study identified using construction professionals in DUR Offices. This study makes usage of both qualitative and quantitative methods.

The information gathered were analyzed using a descriptive analysis, pie charts, tables and Relative Importance Index (RII) to interpret results. Survey results would be examined alongside facts gathered from past literature review to arrive at findings and recommendations will be made accordingly. The main softwares employed are SPSS and Microsoft Excel Spreadsheets.

### **1.8 Structure of Study**

This study was ordered in five (5) chapters and the arrangement is in the sequence below:

**Chapter one (1)** comprise the introduction with detail background backing the research, the problem statement, research questions, aim of the research, objectives of the research, scope, methodology and concludes on a note which introduces the reader to the next chapter.

**Chapter two (2)** comprises statements of contribution to knowledge by reviewing the past literature on works pertaining to the topic under study. Past Literature which is of theoretical and empirical relevance to the study and establishes facts which will instigate further investigation.

**Chapter three (3)** presents the methodology of the study used in collecting data requirement, determining sampling procedures, population and sample size as well as research instruments and analytical tools used in the study.

**Chapter four (4)** is dedicated purposely to the analysis and interpretation of data gathered and interpretations made accordingly. Analytical softwares such as SPSS and Excel would be put to full use in arriving at results as Relative Importance Index (RII) values.

**Chapter five (5)** is about the summary of outcomes of the research, conclusions to the research work and suggested recommendations.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

Chapter two focuses on literature on studies conducted over the years been reviewed. Both published and unpublished articles, journals and various related literature on public procurement practices and sustainability are reviewed. Reviewed literature of this research offers grounds upon which the research is set up to affirm, compliment, counter or make any new patterns that maybe may have risen. The part continues accordingly to report writing which is pertinent to the subject understudy.

#### 2.2 Defining Public Procurement And Concepts of Sustainability

##### 2.2.1 Definitions

The Public Procurement Act, 2003 (Act 663) defines Public Procurement as ‘the acquisition of goods, services and works at the best possible total price of ownership, in the right quality and quantity, at the right time, in the right place for the direct benefit or use of corporations, individuals, or governments, generally via a contract’ (PPA Module, 2007). Frimpong *et al*, (2013) defined public procurement as a system by which government agencies or departments buy goods, services and works from the private sector and takes place at both regional and national level. Kissi-Asare (2014) also cited the United Nations Development Programme UNDP (2007) and opined that public procurement is a procedure of acquiring services, goods and works that comprises all functions such as the identification of requirements, solicitation and selection of providers, arrangement and award of contract, and all phases of contract administration and management through the useful life of an asset or end of a services’ contract.

Doh (2014) opined that, the most used referred to definition for sustainable procurement comes from to the *United Kingdom Sustainable Procurement Task Force*. The Task Force terms sustainable procurement as “a procedure whereby associations address their needs for goods, works, services and utilities in a way that accomplishes value for money on an entire life basis as far as creating advantages not only to the association, but also to society and the economy whilst minimizing mutilation to the earth”. Sustainability is geared towards finding a balance between social, economic and environmental requirements. It entails taking a long-term focus when making choices to guarantee that, addressing our own particular needs today does not compromise the wants of others now and later as well. Responsible care is taken for the neighborhood, national and worldwide impacts of our lifestyle (Agorku, 2014).

### **2.2.2 Concepts**

Frimpong *et al*, (2013) however said the public procurement process is generally subjected to definite policies and rules governing how the pertinent choices are made. With respect to local laws, government officials will have to no option than to follow a set procedure for undertaking public procurement. The procedures entail ways by which advertisements are made for providers, enforcement of the requirements they put on the provider and the grounds on which providers are chosen and the way in which they are assessed. Usually, the aims of such a procedure take advantage of competition between providers and ensure provider performance as well as reduce the risk of corruption. Ohene-Addae (2012) opined that, it is advantageous that the goods/services are appropriately purchased at the most ideal

overall expense of possession regarding time, amount, quality, and location to meet requirements of the purchaser.

Purchasing and supply has a strategic role that can be used as a lever for sustainable development. This strategic role is much more demonstrated now than it was in the days of old. Modern-day commercial practices have shown that organizations and business ventures are focusing more on procurement strategies that reduce the environmental impacts of procurement and supply chain activities in their outfits (Agorku, 2014). Doh, (2014) made reference to the World Summit on Sustainable Development that was held in the 2002 which highlighted the use of the Johannesburg Plan of Implementation that emboldens public procurement practices which motivate improvement and dissemination of environmentally friendly services and goods. The Plan encourages the incorporation of social advancement, economic advancement and environmental protection which are the three pillars of SP. Agorku (2014) purported that, sustainable procurement entails the procedure for purchasing services, goods and works that takes into account the economic, social and environmental impacts people and communities face.

In different words, SPP is where the meeting point of the concepts of sustainable development and public procurement.

**Sustainable Development**

Development that meets  
 The necessities of present without  
 Trading off the capacity of  
 future generations to meet  
 their own necessities

**Sustainable  
 Public  
 Procurement**

**Public Procurement**

Overall procedure of obtaining  
 Goods, services and works on  
 The benefit of a public authority

**Three pillars:**

Economic

Environmental

Social

**General principles:**

Acting fairly

Value for money

*An illustration cited in (DOH, 2014).*

**2.3 Overview Of Public Procurement In Ghana**

**2.3.1 Public Procurement Reforms In Ghana**

In the year 1996, the Public Financial Management Reform Program (PUFMARP) was propelled by Ghana Government to enhance the general public financial management in its nation. The Ghana Government in the year 1999 established the Public Procurement Oversight Group and tasked the group to manage the establishment of an all-inclusive public procurement reform programme. It has lead to the drafting of the Public Procurement Bill in 2002 and has been passed into law as the Public Procurement Act of 2003, Act 663 on December 31, 2003 (Adjei, 2006). However, the Public Procurement Act of 2003, Act 663 must be corrected to push public procurement into a second era of change and to streamline bottlenecks distinguished over 10 years of usage. The Parliament of Ghana on March, 18, 2016 passed the Public Procurement (Amendment) bill to take effect from 1st July, 2016 as the Public Procurement (Amendment) Act 2015, Act 914.

**2.3.2 Objective and Scope of The PPA, Act 663 (2003)**

The Public Procurement Act 663 is focused on harmonizing procedures and processes of public service as its main objective. In doing so, the Act must ensure that state resources are used judiciously, economically and efficiently. The Act also needs ensure that the functions of public procurement are transparent, fair and non-

discriminatory in the public sector. The extent of the Law applies to acquisition that is financed completely or mostly from public resources; procurement of services, goods and works (Glavee-Geo, 2008). Glavee-Geo (2008) orated that, there are some exemptions to the Act 663, in a case where the Minister of Finance chooses that strategies are of national interest; likewise where a loan agreement stipulates the use different procedures, the Act 663 ceases to apply.

### **2.3.3 Role of the Public Procurement Board and Structures**

The Public Procurement Act institutes a Public Procurement Board and structures such as Tender Review Boards and Entity Tender Committees. The Act stipulates rules for procurement procedures, methods, disposal of stores and appeals by tenderers. The Act also states applicable penalties for offences (Ohene-Addae, 2012). The Act specifies procurement thresholds in its schedules and issues of regulations that can be enforced by law. The Procurement law spells out functions of several state structures. Structures include government enterprises; schools and universities, clinic and health facilities, the Bank of Ghana, MMDAs, Ministries and Agencies (Ohene-Addae, 2012).

### **2.3.4 The Public Procurement Authority (PPA)**

The Procurement law establishes the PPA and mandates it to lead the mission for procurement excellence in Ghana. The PPA is has eight (8) departments to be precise; public affairs department, legal department, management information system, capacity development, finance and internal audit policy and strategy department, monitoring and evaluation. The World Bank, other International agencies and countries have questioned the nation's public procurement framework as a model in Africa though it is known for the significant success the law has achieved since its implementation in 2004 (Frimpong *et al*, 2013). The PPA, as a

major aspect of its command under the Act, been top most to other bodies with the oversight obligation of public procurement in Ghana, has created manuals and regulations that offer far vivid regulated data as an aide for proficient and efficient execution of the law (Frimpong *et al*, 2013)

## **2.4 Public Procurement in other Countries**

### **2.4.1 Public Procurement Legislation in African**

According to Bampo-Agyei *et al*, (2015), it is indicated in records that regulations affecting the practice of public procurement in many African countries were enacted beginning from the year 2001. The following are the procurement laws enacted in mentioned countries: Public Procurement and Asset Disposal Act 2001 - Botswana; Public Procurement Act 2001 - Gambia; Public Procurement Act 2003 - Malawi; The act governing Ghana's public procurement was enacted in 2003 as the Public Procurement Act 2003, Act 663; the Public Procurement and Disposal of Public Assets (PPDA) Act 2003 - Uganda; Sierra Leone also in 2004; Public Procurement Act 2004 - Tanzania; Kenya had their Public Procurement and Disposal Act in 2005; Public Procurement and Concessions Act, 2005 - Liberia; Public Procurement Regulation 2006 - Lesotho; Public Procurement Code - Senegal but became a regulation in 2007; Rwanda Law on Public Procurement Law of Rwanda in 2007; In Zambia the Public Procurement Act was enacted in 2008; Public Procurement Code 2009 - Republic of Benin; and in 2009, the Public Procurement Regulation South Africa (Bampo-Agyei *et al*, 2015).

### **2.4.2 Public Procurement Reforms in East Africa**

According to Odhiambo and Kamau (2003), in the middle 80s, there was developing examination and persuasion from inside and outside to change the procurement

procedure in three East African countries, it therefore became urgent to reform public procurement in these countries. Local procurement stakeholders were the main domestic push for the reform. Public procurement affects different elements of the society. Stakeholders from these three east African nations largely voiced displeasure about the public procurement structure. These worries were obviously associated to the way and adequacy of the public procurement procedures. The stakeholders criticized the misappropriation of funds, unproductive services, insufficient infrastructure, huge taxes, high risks and increasing indebtedness. The governments reacted to these concerns and recognised the need to revise the public procurement process and the need for being more answerable to the various stakeholders of their countries (Odhiambo and Kamau, 2003).

#### **2.4.3 Public Procurement in Australia**

Australia has history of designs, maintenance and construction management of public works been directed by in-house professionals. Once in a while, these professionals were augmented by outside advisors, with nearly all development embraced by private contractual workers (Furneaux et al. , 2008). According to their research, the way of administration conveyance for government offices in a general sense changed as every one of these undertakings turned out to be completely outsourced. An open arrangement accentuation on the cost-productive private arrangement of open base drove the resultant marketization of open administrations (Furneaux et al. , 2008) opined that, when scrutinizing public, specialists avoid a tight concentrate on financial examination of the expenses and advantages of outsourcing, and focus more on what is just right and great. They purported that, specialists have propelled the investigation of public values in three fundamental ways:

1. Universal approaches, that concentrates on the regularizing component of public values.
2. Institutional approaches, that concentrates on public values such as place, time, and culture
3. Stakeholder approaches that concentrates on values that are seen as the result of organized relations amongst partners.

## **2.5 Public Procurement Under The PPA 2003, (Act 663)**

### **2.5.1 Procurement Structure**

The Public Procurement Law formulates procurement structures that strengthen and give backing to the execution and administration of public procurement roles. These structures incorporate the Entity Tender Committee (ETC), Evaluation Panel, Head of Entity, and Procurement Unit that perform various functions in the procurement cycle (Berko *et al*, 2014).

#### **2.5.1.1 Entity Tender Committee**

Section 17 to 18 of the Public Procurement Act 663 requires that every public procurement entity should setup a tender committee in the way set out in the schedule of the Act. The ETC functions to guarantee every phase of the procurement process, procedures endorsed in the act have been appropriately taken after. They are accomplished by practicing sound ruling when taking procurement decisions and reference made to the fitting body for approval. The Act, in schedule 1 says a tender committee shall be made up of seven (7) or nine (9) members as stated in the schedule.

### **2.5.1.2 Tender Evaluation Panel**

The Act 663, in Section 19, stipulates that every Procurement Entity should assign a tender evaluation panel that have the requisite skills and expertise to evaluate tenders as well as assisting the ETC in carrying out its work. When performing its duties, the tender evaluation panel shall advance in accordance to the predetermined and published criteria for evaluation. Members of the tender evaluation panel shall possess the requisite capabilities: i.e. members should possess applicable technical skills, procurement and contracting skills, financial management skills and end user representation (Section 19 of the Act 663).

### **2.5.1.3 Head of Entity**

Entities are often in charge for their procurement, unless the Act, procurement regulations and administrative directions of the Minister states otherwise and is done in consultation with the Public Procurement Board (PPB). An Officer who is in charge of the applying the Act, in other words the head of an entity or anyone to whom duty is assigned to, are accountable and responsible for executing actions and act on orders with follow up to the application of the procurement law that might be give out by the Minister of Finance acting in consultation with the PPB. Heads of Procurement entities are answerable to guarantee that necessities of the Law are consented to; and simultaneous endorsement by any Tender Review Board might not vindicate heads of entities from been accountable for contracts which might have been obtained in a way that is conflicting with the arrangements the Public Procurement Act. When entities make decisions, they should be reverred in a corporate way and interior units troubled might add to the basic decision making process.

#### **2.5.1.4 Procurement Unit**

Procurement units are part of each procurement entity; they are often tasked with the duty of handling all purchasing activities of their entities but subject to the endorsement of a Tender Committee or a Review board when need. Regulations provide details of roles of the purchasing units. They incorporate getting procurement requests from originating departments, checking the solicited requests are captured in the procurement plan and in the approved budget as well as guaranteeing that funds are appropriately committed prior to issue of a Purchase Order or any contract award. Other functions include co-coordinating the preparation of specifications, bills of quantities, drawings, preparation of terms of reference, short-listing or advertising as well as prequalification, also tender and request for quotation documentations.

As is required by the Tender Committee, procurement units submit the documents for examination and endorsement by the Tender Committee or Review Boards preceding issue. It additionally orchestrates the distribution of promotions and notification of agreement recompense and co-organizing the way toward opening of tenders and quotations and ensuring the readiness of formal records of delicate or citation opening as per Section 56 of the Act.

Depending on the procurement load of the procurement entity the size and structure of the purchasing unit and the numbers grades of staff is grouped together. The unit's head serves secretary to the Tender Committee, keeping in mind the end goal to offer technical guidance, enlighten them on submission and encourage the execution of decisions reached by the tender committee.

## 2.5.2 Procurement Methods

Under the law, there exist various procurement methods that can be used by entities. Choosing a particular method depends on the limit set in the Act and the situations encompassing the purchase decision. Procurement methods include Competitive tendering, restricted tendering, two-stage tendering, single/sole source tendering, request for proposal, and request for quotation (Berko *et al*, 2014).

## 2.5.3 The Procurement Cycle

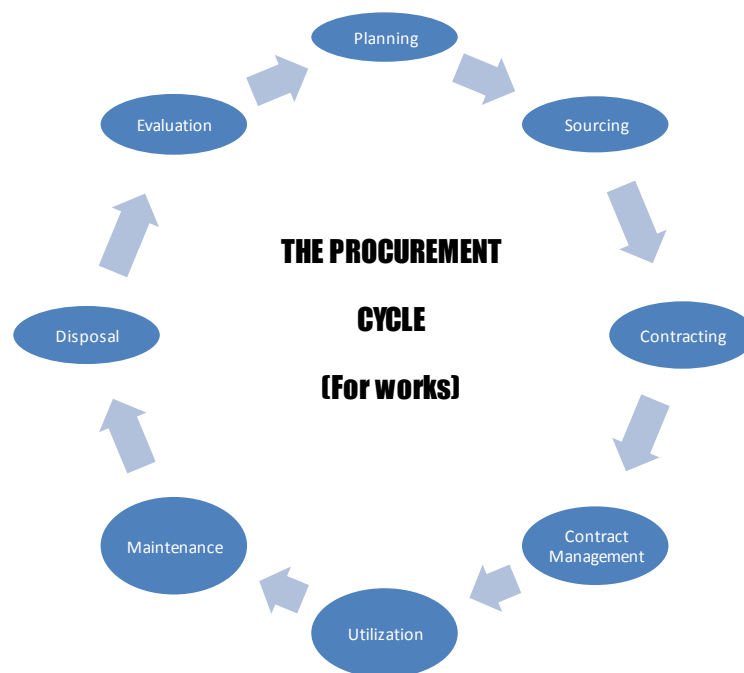


Figure 2.1 below shows a typical procurement cycle for works.

## 2.6 Sustainable Public Procurement

### 2.6.1 Promoting Sustainable Procurement

#### 1. The case Ghana.

Using legal instruments to implement policies, Sustainable Procurement (SP) should be run through municipal and national levels. Also the use of a solid political will

and initiative will move for a successful application course. Suppliers who are keen on immediate savings and increase in profit margins would should be diverted to incorporate sustainability considerations to improve economic advancement, social value and green sustainability.

Training compliance inspectors therefore becomes necessary for a successful implementation of Sustainable Procurement. Section 59 of the Act contains certain social and environmental sustainable problems. The main emphasis laid out in the Section is on economic aspects of procurement. Even though this is so, not all Economic matters was incorporated into procurement processes. There are only a couple of social contemplations, with nearly no concern for Environmental problems. Although Environmental issues are not netted into the Act, it takes standalone regulations on problems like reduction in greenhouse gas emissions, Energy Efficiency Standards, Pesticides Control and Management, Forest & Wildlife management, Mining and others.

The labour Law of Ghana 2003, Act 651 addresses social problems such as:

1. TUC-Employers dialogue,
2. Equal Opportunity for Employment,
3. Child labour, among others
4. Occupational Health & Safety,

The Act 663 does not integrate sustainability issues (for supplier compliance). However, the amended Act will influence public procurement by making sustainability a requirement and suppliers who fail to comply will be held accountable.

## **2.6.2 Sustainability Public Procurement in Other Countries**

Most nations have Sustainable Public Procurement (SPP) problems in their procurement, other regulations and laws. Like Ghana, every nation has to examine its regulations and rules to find sustainability problems as well as attempt to bring them under the procurement law and regulations for effective implementation.

### **1. Policy document on SPP for Botswana**

Social and economic objectives and procurement clause: "The Government may every now and then present saved and special procurement plans. The plans talked about should apply to particular, burdened ladies' groups and districts and ranges subject to periodic catastrophes"

### **2. Policy document on SPP for Gambia**

Under section 37(2) of their Procurement Law, The Authority is required to recognize and empowering ways of encouraging involvement of smaller businesses in public procurement. An example is an establishment of small-scale enterprise set-asides and in case of equivalent low offers, making awards first to the smaller-scaled ventures. Discussed issues under the varying legislations and laws are sustainability issues despite the fact that it might be contended that they seem to be defensive clauses that could trespass against World Trade Organization equal opportunity arrangements. A case of Social sustainable issues in a tender document could contain a provision and have as portion of its specifications:

- i. "Providers that do not administer fair salaries are omitted".
- ii. that "providers that use child labour in their construction are omitted"; or
- iii. That "products that contribute to depletion of the ozone layer been omitted".

### **3. Policy document on SPP Tanzania**

The main objectives of the SPP document are:

- i. Social and Environmental considerations in public procurement might contribute towards an effective public and a focused business segment.
- ii. Public Procurement out to take place with the focal on environmental issues and with reverence for human rights and basic workers force' requirements.
- iii. Tanzanian Procurement Regulation of 2005 Section12 (1), states "A procuring entity shall avoid wherever possible the acquisition of chemicals, pesticides or different merchandise which are known or suspected to affect the wellbeing of the populace, the earth, residential creatures, natural life and verdure".

#### **2.6.3 Benefits and Barriers of Sustainable Public Procurement in Developing Nations.**

In existence are numerous advantages of Sustainable Public Procurement which are most at times equally reinforced. Examples are green innovations which produce monetary advantages like riches creation, occupation and skill development which are social advantages and environmental advantages like resourceful and effective use of funds. Especially in developing countries, prove of science on the effects of Sustainable Public Procurement does not easy to find and there are supposed or actual barricades that bounds the acceptance of SPP.

##### **2.6.3.1 Benefits of SPP**

###### **i. Environmental Aspects**

Public entities and authorities may have an affirmative effect on environmental difficulties through the implementation of SP. They could do so by contributing to meet environmental challenges such as:

- i. Soil degradation
- ii. Climate change
- iii. Access to fresh water and
- iv. Biodiversity loss.

***The procurement process (UNDP & UNEP 2007, 11).***

These entities and authorities can also contribute by decreasing the environmental risk impacts on safety and health as well as wellbeing of a nation's environment caused by public procurement. Also, savings can be generated by waste reduction and judicious resource consumption and conservation. The procurement process should consider the following:

- i. The of renewable raw materials,
- ii. Greenhouse gas emissions
- iii. Production processes,
- iv. Durability
- v. Product lifespan,
- vi. Energy and water consumption during use,
- vii. Air pollutants
- viii. Reuse and recycling products, or
- ix. Refuse, packing and transportation.

SPP can then back a specified national natural environment strategy, adopt universal environmental traditions, ensure conformance and add to accomplishing worldwide targets, for example, the decrease of gas emissions. It has a great prospective for natural advantages at the local level. A case may include, the utilization of low-emitting vehicles for open transportation can enhance air quality and buying of

harmless cleaning items can make more beneficial environment for students especially (United Nations 2008; World Bank 2011b; European Commission 2004).

## **ii. Social Aspects**

Thus, SPP may improve obligations to social advancement objectives, for example, traditions that boycott child labor and establishes the privilege to frame trade unions and guarantee it is non-discriminatory. Further, SPP may add to improving consistence with national and worldwide labor and social rules. It can also contribute to reducing poverty and improving living conditions in developing countries as it promotes voluntary social standards e.g. fair Trading. Sustainable Public Procurement can also motivate social inclusion as well as fight for social justice. An example is South Africa, which acquainted a framework to stimulate the progression of individuals generally burdened by non-discriminatory (such as gender, age, colour, religion and the like). Also in Brazil, prospective advantages and boundaries of SPP in creating nations law were presented in 2007 which sets up criteria expected to build contribution of little scale businesses in procuring. Social elements included complying with core labor standards, recognizing diversity and equality, ensuring fair working conditions, developing local communities and increasing employment and skills (European Commission 2010; United Nations 2008; IISD 2012; UNEP 2011).

## **iii. Economic Aspects**

An outright purchase tag of a good, service or works is one and only component of the entire cost of proprietorship. To guarantee worth for cash over the more extended span, building up the most reduced entire life expense of an item can bring about major money related investment funds. An organized methodology can be utilized to deliver a spend profile of the item or administrations over its expected life range and

it will incorporate the expense for procurement, use, upkeep and transfer of the product or service. Even a forthright cost for sustainable items could be lowered due down to the use of a sustainable production process (Berry 2011; European Commission 2010; United Nations 2008). The Sectors which are liable to have the most effect incorporate welfare, general transportation, and construction as well as information technologies. SPP can also drive markets to drift towards cleaner methods of income generation and enhanced intensity of providers broadly and comprehensively. Procuring data innovations for people with handicaps can aid as a model for different purchasers and can create even grounds and economies of scale. Through SPP, the advancement of little and middle-scaled businesses and provider differing qualities may bring about enhanced entrance to the business sector (Berry 2011; European Commission 2010; United Nations 2008).

## **2.7 Sustainability In Public Procurement Practice**

### **2.7.1 Sustainable Development Issues**

Recently, both practitioners and academics have become more and more concerned about how associations and their suppliers sway on the general public, economy and the environment. Existing is a predominant opinion that there should be some limitation in societal and economic enhancement, to reduce the adverse effects on the earth. Organisations, notwithstanding ecological contemplations, may select providers to reestablish the irregular characteristics in the public eye (e.g., purchasing from small and medium scaled businesses) and globally (e.g., selecting providers from countries that are developing) (Walker and Phillips, 2009). Strategically, purchasing and supply can be used as a lever for sustainable improvement. It is demonstrated expanding popularity of study that was conducted

on responsible purchasing and supply, with great emphasis on green or sustainable procurement in the public sector. It is also been centered to increase the social and environmental execution of organizations and their supply chain activities in the private segment. Walker and Phillips (2009) explored emergent issues by using forty-four (44) practitioners and academics from the public and private sector at a workshop and put them in focus groups. They identified key difficulties that are essential to the development of sustainable procurement along these thematic areas: ethical supply issues, sustainability and innovation, moving from an environmental emphasis to economic and social focus, and measuring the effects of a sustainable supply.

The research conducted by Walker and Philip (2009) had numerous implications on sustainable procurement policies. The involvement senior government's dedication is expected to guarantee that experts are equipped to procure reasonably. Also, providing sustainable procurement measures in structures for yearly reporting would give structures for yearly reporting indication that public procurement is anticipated to deliver on the plan. Legislation and regulation could advance practice of sustainable procurement. Public advancement of ethically, socially and environmentally responsible purchasing also appears important in promising consumer-led reactions in supply markets. Lastly, political associations could consider multi-party agreements on the sustainability plan in the interest of their nation to prevent the event of short-termism. Practice implications incorporate, familiarity of the systemic way of innovation and sustainability; numerous partners, for example regulators, buys, and peer groups can stimulate how their associations transform in response to the sustainability plan.

Commitment of high-ranking administration and social change can also facilitate the practice of sustainable procurement. Suggestions for the practice of sustainable procurement include:

1. identifying sustainable procurement risks
  2. including sustainability criteria in contracts
  3. educating providers
  4. working with SMEs
  5. suppliers assessment
  6. Working with providers to embolden innovative retorts to sustainability
- (Walker and Phillips, 2009).

### **2.7.2 Key Drivers to Promote Sustainable Procurement**

There are several key drivers that lead to sustainable procurement practice in an organization. An attempt has been made to list some of the key drivers promoting Sustainable Procurement practices in the International context. Following are the key drivers on which the procurement practices are directed.

#### **1. Government Authority and Legalizations**

Government bodies and legislations play has been recognized as a key rationale for business organizations to take ecological action, and the regulatory sector has acknowledged the maximum concentration in the literature (Zhu & Sarkis, 2006; Björklund, 2011). Government authority and legalizations normally play a significant role in persuading business organizations to focus on the sustainability principles and practices. Government authorities may adopt a ‘command and control’ perception e.g. carbon tax, fines and penalties to non-maintenance of environmental standards and subsidizing certain industries as well as technologies (Gupta & Desai, 2011).

## **2. Societal Pressure**

Walker et al. (2008) identified that pressure from a variety of societies such as NGOs and green promotion groups' forces business organizations to critically consider about their environmental and social sustainability plans. The broader societal considerations may include occupational health and safety practices, local society issues, employability practices, and stakeholder dimensions etc. (Bai & Sarkis 2010).

## **3. Top/Middle Management**

When the leadership has complete knowledge on the business organizations' sustainability objectives, they make decision accordingly (funds allocation, priority setting, technology & infrastructure advancement etc. Top/middle management leadership is very influential in motivating the business organizations to assess their role in society and are accountable for the business organizations' sustainability development programs (Giunipero et al., 2012). This is applicable to procurement domain also.

## **4. Reward, Measurement and Benchmarking Systems**

It has been reported by previous researchers that the reward, performance measurement and benchmarking systems have significant positive impacts on the purchase activities (Preuss, 2007; Björklund, 2011).

## **5. Employees**

Employees of a firm should understand that what they do and how it affects the environment and society. This will lead to new environmental and social friendly programs towards sustainable development initiated by employees and supported by management (Rondinelli & Berry, 2000; Szekely & Knirsch, 2005). Employee knowledge, awareness, interest and confidence may play very important role in purchasing decisions (Van Weele, 2005; Björklund, 2011).

## **6. Suppliers' Involvement**

Suppliers' involvement in environmental issues has got significant importance in previous literatures. Supplier involvement in environmental design is necessary to improve environmental and social performances (Tate et al., 2012). Collaboration with suppliers is another way to achieve sustainability (Chabbane et al., 2012). Effective communication with suppliers affects sustainable procurement practices in the organization (Walker & Brammer, 2012).

## **7. Competitors**

Competitors are very important to proactively tackle environmental and societal issues in purchasing (Zsidisin & Siferd, 2001; Björklund, 2011). In today's competitive environment, organizations have need of continuous and swift improvements to get new competitive advantage (Spence & Bourlakis, 2009).

## **8. Education and Training of Supply Chain Partners**

Customers have started to comprehend that their purchasing activities may cause a huge impact on environment. Customers may put pressure on business organizations to produce environment friendly and socially responsible products (Wahid et al., 2011). A business cannot presume to observe their supplier's environmental awareness and benchmarking when the business itself does not keenly partake in such activities (Palisi, 2012). Business organizations should recognize education and training needs of their SC members and the education training should include: green and environmental policy, benefits of improved performance and job specific environmental impacts etc. SC members' education and training will help to attain the sustainable consumption and production practices in the society (Sambasivan & Fei, 2008; Ageron et al., 2012).

### **2.7.3 Challenges in Achieving Sustainable Procurement in India**

Sustainable procurement has increasingly been an important perspective for business organizations. There are various challenges to achieve Sustainable procurement practices have been identified after review of available literature. Though the list is exhaustive, few of the important challenges have been discussed by relating their international trends with Indian context.

#### **1. Lack of Consent About Sustainability**

Business organizations have acknowledged the importance of sustainability as a key strategic aspiration to attain ecological, financial and societal benefits. But, there is no single universally accepted definition of sustainability (Giunipero et al., 2012). Due to non-availability of a universal definition for talk about sustainability, business organizations describe it broadly, while others describe it more scarcely (Berns et al., 2009). Indian companies still depend on foreign companies to establish the standards. They do not have their own developed standards especially on the meaning of Sustainability. In India, the major industrial production is based on SMEs and these SMEs are not having the uniform understanding on Sustainability.

#### **2. Economic Uncertainty and Cost Issue**

The status of supply management sustainability initiatives are motivated by the regulations/legalizations and top management programs, but are normally constrained by economic uncertainty and cost issues (Walker et al., 2008; Giunipero et al., 2012). Indian firms still look at sustainability as a cost escalation activity not a business development activity. It is a general feeling of insecurity that investment is not going to give returns resulting in the less interest towards the concept itself. The economic volatility in Indian conditions is also a big challenge for the organization to adopt certain sustainable concepts in their operations. Apart from financial and cost

barriers, corruption and bribery also impede sustainable procurement practices in India (Sheth, 2008).

### **3. Absence of Strong Regulatory Framework**

Sustainable procurement is on governmental agenda throughout the world, and trying to buy commodities, products and services in most economic ways by taking consideration of environment and public concerns (Walker et al., 2012). Regulatory liabilities means legally enforceable restrictions relating to use of the materials, products or services (Zsidisin & Ellram, 1999; Zsidisin, 2003; Lavastre et al., 2012). Regulatory boundaries may also play a key role in the economic boundaries for organizations (Sarkis, 2012). Complicated regulatory requirements may disturb the suppliers and negatively impacts on the business performances i.e. penalties and fines due to non-confirming of the regulatory requirements (Ageron et al., 2012). India does not have strong regulatory structure compared to their western counterparts and developed nations and few ministries along with some government regulatory bodies are taking care of green procurement legislation. This is with a considerable overlap in their accountability and oversight.

### **4. Conflict between Short Term and Long-Term Strategic Goals**

Giunipero et al. (2012) suggested that a most of business organizations did not have a strong business case for sustainability. Therefore, organizations face trouble in planning beyond the short term strategic goals e.g. uncertainty to meet requirements of regulatory bodies and customers. In the Indian context, companies are having the profit as their prime orientation than growth strategy. This priority stops the organization to look the industry horizontally for the sustainable growth.

### **5. Resistance to Change in SC Network**

The purchasing and supply management practices have been affected by sustainable development and therefore foster a change in the business organization's supply network (Crespin-Mazet & Dontenwill, 2012). This could be a big challenge in the Indian environment as well, as many of them are used to their outmoded systems and they do not want to adopt themselves to the newer systems.

#### **6. Green Products Perceived to be More Expensive**

Going green could be an expensive undertaking in short term basis. A Business organization that decides to commence green or sustainable practices will have to front the cost for a broad array of upgrades from more energy efficient machines to recycled printer paper (Giunipero et al., 2012). Up gradation in technologies and machinery will increase initial investments of business organizations. Still, there is a perception in Indian consumers that the green products and processes are high cost ones.

#### **7. Lack of Managerial Support**

Many organizations fail at gaining top management support for sustainable purchasing practices. Without support from top management to change the mindset of the organization, the purchasing department will never become aware of how big of an impact it can make on the bottom line (Palisi, 2012). Many of the SMEs are family run business and work on only the profit motive not on the long term expansion/ sustainable mode. Managers or Process owners are not completely aware of the benefits of the sustain- able practices in the long term and they challenge these initiatives vehemently which is the big obstacle of sustainable practices.

#### **8. Lack of Environmental Awareness among Society**

There is a lack of strong environmental conservation or citizen groups in India (Muduli et al., 2013). Low demand of green/sustainable products is due to lack of

environmental awareness among society (Mudgal et al., 2010; Luthra et al., 2011; Govindan et al., 2014). Due to lack of guidelines and lower environmental awareness in society, it is very difficult to promote green/sustainable procurement.

### **9. Lack of Tools and Information**

Firsthand experience and specific implementation tools and information sources to make sustainable purchasing more effective are missing (Miemczyk et al., 2012). These tools are less customized to Indian situation constraints and there is a good scope for the development for the Index pertaining to the same. Poor Information & technological and resources capabilities of suppliers to transfer timely and relevant information to OEMs/buyers may be real problem to manage supply chain (Zsidisin, 2003; Handfield et al., 2000). Infrastructure and communication issues with suppliers may one of major risk to manage the supply chain (Lavastre et al., 2012). This is also one of the important challenges for Sustainable manufacturing in India, as they are not keen in developing their own tools and techniques/ systems for operations. Outsourcing the activity is very common in Indian industry which created gaps of communication.

### **10. Absence of a Single Uniform Approach for Defining Criteria/Norms**

Berns et al. (2009) suggested that there is no a single consistent approach for defining criteria/norms about sustainability means to a company, which creates misalignment between more profit oriented and sustainability goals of business organizations. Sustainability is multi-dimensional approach with lacking of consensus among business organizations hinders sustainable purchasing efforts (Giunipero et al., 2012). It is a general perception that they fail to look beyond greener approach.

### **11. Lack of Information, Training and Accountability**

Lack of information, training and accountability are major hurdles to integrate sustainable procurement practices. Inconsistent and incomplete information makes buyer's confusion, what to purchase and what not. Lack of information, training and accountability reduces the motivation of procurement managers to buy green/sustainable products (Chari & Chiriseri, 2014).

### **12. Fluctuation in Volume and Mix Requirement**

Supplier unable to meet demand fluctuations in quantity and type for a component or service may be real risk to manage SC (Zsidisin, 2003). Problems with the supplier when the raw material has to be changed and his contract tenure left. Searching for a new supplier or old one being transformed takes time. This produces discontinuities in supply chain. A SC cannot be responsive to varying market trends and consumer preferences if the correct market signals cannot be predictable (Christopher & Lee, 2004). This situation is very prominent in the Indian conditions. The lead time and volume management are not followed strictly according to the world class standards available across all the industries.

### **13. Poor Management Policies**

Poor management policies (supplier's management attitude, lack of vision and ability to foresee market changes) are main supply risk to manage the supply chain (Zsidisin, 2003). The challenges associated with changes of managerial decision or crashes in operational schedule planning or failure of control tools/methods comes under this (Giunipero & Eltantawy, 2004). Thus the objective of the study is to identify public procurement practices by DUR Offices in accordance to that which is required by the PPA 663; identify sustainability issues with roads sector procurement in Ghana and recommend appropriate strategies to mitigate the identified factors.

## **2.8 Sustainable Procurement Practices**

### **2.8.1 Ghana's Sustainable Public Procurement Policy (SPP)**

(Kissi-Asare, 2014) following an Institute for Sustainable Development (IISD) report said, the government of the republic of Ghana made a commitment publically to the development of a Sustainable Public Procurement (SPP) policy as a part of its nations strategy towards sustainable development in December 2010. With the IISD acting as technical consultant and managed by Ghana's Public Procurement Authority been buttressed by the Swiss Secretariat for Economic Affairs (SECO), the Ghana Task Force (GTF) for SPP comprising various stakeholders grouped and authorized to work with the Public Procurement Authority in charge of the design and the application of the policy on sustainable public procurement (Kissi-Asare, 2014). His study mentioned that, sustainable public procurement policy is specifically although subject to review is specifically calculated to:

1. Enable procurement entities to design and implement sustainable procurement action plans and assign responsibilities;
2. Promote compliance with relevant social and environmental laws and regulations as they apply to public procurement;
3. Recognize and rank spending categories to provide for incremental implementation;
4. Embed social, environmental and governance criteria in procurement decisions
5. Raise capacities of buyers and enterprises that do business with the government;
6. Provide initiatives to support Small Scale Enterprises (SME's);
7. Integrate environmental and social criteria into public procurement framework agreements, e-procurement initiatives and supplier diversity programs; and

8. Support the implementation of an internationally accepted procurement assessment program (Kissi-Asare, 2014).

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter explains the procedures that were used in this research to achieve the aim and set objectives as well as the methodology that best suits the study. The chapter also informs the approach employed in carrying out the research agenda and how relevant information/data were obtained and interpreted. It also discusses the sampling method and size, questionnaire distribution and data collection methods used.

#### **3.2 Brief History of Department Of Urban Roads**

In Ghana, generally, the Ministries and Departments are not covered by an Act of Parliament. They are established by an Instrument of the Executive Arm of Government. The Ministry of Roads and Highways, Department of Urban Roads and the Department of Feeder Roads are therefore not covered by an Act of Parliament.

The Ministry of Roads and Highways currently has five departments and agencies to its name, they are:

- i. Ghana Highways Authority (GHA)
- ii. Department of Urban Roads (DUR)
- iii. Department of Feeder Roads (DFR)
- iv. Ghana Road Fund (GRF)
- v. Koforidua Training Centre (KTC)

### **3.2.1 Department of Urban Roads**

The Department of Urban Roads (DUR) was established in January, 1988 by the Executive Arm of Government, for the Administration, Planning, Development and Maintenance of the urban road networks. It established Road Units in Metropolis and selected Municipalities. DUR offices are to be extended to other District Assemblies as and when they are upgraded to Municipalities. Currently, staffs of the Road Units are made up of employees from Ministry of Local Government and Ministry of Roads and Highways.

#### **➤ Mission**

The Department of Urban Roads (DUR) will assist in building capacity in the MMDAs to provide quality urban road transport systems for the safe mobility of goods and people.

#### **➤ Vision**

The Department of Urban Roads (DUR) is dedicated to the creation of decentralised Road Units in the Metropolitan/Municipal/District assemblies (MMDAs) for the provision and management of the urban road network in support of quality transport systems. With the setting up the Local Government Service, DUR Head Office is to be a division under the Ministry of Roads and Highways while DUR Units in the municipalities are to be fully integrated into the District Assembly system. (MRH, Online)

Table 3.1 List of Metropolitan, Municipal and District Assemblies in Greater Accra

<b>METROPOLITAN</b>	<b>MUNICIPAL</b>	<b>DISTRICT</b>
Accra	Adenta	Ada West (New)
Tema	Ashiaman	Dangme East
	Ga East	Dangme West
	Ga West	Kpone Katamanso (New)
	Ga Central (New)	Ningo Prampram
	Ga South	
	La Dade-Kotopon	
	La-Nkwantanang-Madina	
	Ledzokuku-Krowor	
<b>Total Number = 2</b>	<b>Total Number = 9</b>	<b>Total Number = 5</b>

*Source: (Ghana District, 2014)*

### **3.3 Research Approach And Design**

Kothari (2004) opined that, a research design is the conceptual arrangement within which the research is conducted. It embodies the procedure for gathering, measurement and analysis of data. There exist two categories of research design, could be quantitative and qualitative research. Also a triangulated or mixed method of both qualitative and quantitative research approach could be used.

Quantitative research concentrates on numbering and classifying features and building statistical models and figures to clarify observations made. Its purpose is quantifies and generalises results from a sample to the population of concentration. A structured technique such as the use of questionnaires survey is employed (Kissi-Asare, 2014). Qualitative research produces non-numerical data on the other hand. The main point is to gain an understanding of fundamental reasons and inspirations behind opinions. It offers knowledge into the setting of a problem that produces thoughts and comprehends human behavior and motives thereof. Structured, semi-structured or unstructured interviews are used for the collection of primary data (Kissi-Asare, 2014).

This research employs the triangulated or mixed approach due to the nature of the research and the characteristics of the measurement.

Robson (2002) stated that, a case study is defined as “a procedure for doing research which comprises an empirical examination of a specific contemporary phenomenon within its real life setting using multiple source of proof. Case-studies are analysis of persons, periods, events, projects, decisions, policies, institutions or other methods that are studied holistically by one or more approaches. This research focuses on the Department of Urban Road Offices in Greater Accra as a case study for the research into Sustainable Procurement (SP) in the Ghanaian road sector.

The study will follow the sequence outlined below:

- i. Preliminary Investigation into study
- ii. Design and development of questionnaires and interview questions.
- iii. Population definition, sampling technique and sample size determination.

### **3.4 Preliminary Investigation into Study**

This involves the review of relevant literature, interviews and discussions from relevant sources. The sources include both formal and informal interviews with professionals in the road sector, whose experience and expertise in public procurement can help achieve the aim and objectives of the study. Sources also will include both published and unpublished work such as thesis, articles, reports and journals relevant to the topic under study.

#### **3.4.1 Sources of Data**

The sources of the data used for the research can therefore be clustered into two classes, primary and secondary.

**Primary Sources:** The primary sources for the collection of data will be through interviews and questionnaires.

**Secondary Sources:** Secondary sources of the will be through reviewed literature works from various published and unpublished documents such as books, thesis, articles, reports and journals.

### **3.5 Design And Development Of Questionnaire And Interview**

Al-Moghany (2006) opined that, academics are not able assume that individuals think in certain ways without asking them what they think. Ansah (2014) mentioned that, a structured questionnaire is undoubtedly the most broadly utilized data gathering method for conducting surveys to discover opinions, facts, and views. Using questionnaires is a standout amongst cost efficient methods to involve a huge number of individuals in the course to attain good results (Ansah, 2014). This Study adapted a questionnaire survey to get feedback on opinions of construction professionals who work in DUR Offices.

Another research instrument used was a semi-structured, face to face interview with the heads of DUR Offices. This was because a semi-structured interview was a bit more relaxed and would enable the researcher to attain an in-depth comprehension of principal reasons and inspirations of the case under studied. The researcher had the chance to explore responses from heads of DUR Offices by asking for clarification or additional information.

This Study adapted a questionnaire survey and a face to face interview to get feedback on opinions of professionals to investigate the current nature of Sustainable Public Procurement in DUR Offices in Accra; outline key barriers and challenges restraining the practice of Sustainable Procurement in the Roads Sector in Ghana and recommend appropriate strategies to mitigate the identified factors.

### **3.6 Population Definition, Sampling Technique And Sample Size Determination**

#### **3.6.1 Population Definition**

The target population for the study were construction professionals who are directly involved in making procurement decisions at management level and work in DUR Offices located in the Greater Accra Region. They included civil engineers, materials engineers, geodetic engineers and quantity surveyors. Also, all heads of DUR Offices visited formed part of the target population.

#### **3.6.2 Sampling Techniques**

Ross (2005) stated that, “a convenience sampling is a type of non-probability sampling in which components are chosen from the target population on the premise of their availability or convenience to the researcher. Therefore a convenience sampling approach was used in selecting DUR Offices that were visited shown in Table 3.5.2.1 below. Respondents who work both in the selected DUR Offices were then sampled purposively. According to Polit and Hungler (1999), purposive sampling technique is also a non-probability sampling method that consists of the conscious selection of definite subjects to be included in the study.

#### **3.6.3 Sample Size Determination**

Ansah (2014) mentioned that, there are numerous methods that can be utilized as a part of deciding the sample size. They incorporate, “the use of a census for small populations”, “using published tables”, “imitating a sample size of comparable studies”, and lastly “applying formulas (e.g. Kish formula) to compute a sample size”. However, based on the selection of a defined number of DUR Offices in Greater Accra used for the case study and the purposive sampling technique employed, the sample size was specified based on those who were willing to participate in the survey. A total of forty (40) respondents and six (6) heads,

including one (1) contracts manager and one (1) head of quantity survey section at the regional office, of the selected DUR offices were used as sample size for the questionnaire survey and interview respectively. Purposive sampling was adopted because the targeted respondents are construction professionals who are experienced and by their nature of work or involvement affect directly the procurement decisions made at management level and therefore were consciously selected.

Table 3.2 Department of Urban Roads Offices used for the Case study

<b>DUR OFFICES</b>	<b>LOCATIONS</b>
Accra Regional Urban Roads Office	Amasaman
Kaneshie Metropolitan Roads Unit	Kaneshie
Ga West Municipal Roads Unit	Amasaman
La Dade-Kotopon Municipal Roads Unit	Labadi
Ledzokuku-Krowor Municipal Roads Unit	Teshie Nungua
	Total Number = <b>5 Offices</b>

### **3.7 Distribution Questionnaires**

Using purposive sampling technique, the key stakeholders who are directly engaged in the procurement activities were identified and a complete set of questionnaire was given to them in person. Also questionnaires were administered via email at areas, i.e. Regional and Municipal Urban Road offices - Amasaman, where the researcher was not able to personally pay a visit to administer questionnaires. The respondents were given sufficient time to appropriately answer the questionnaires and provide them for later collection. The emailed questionnaires were printed in hardcopy, filled by respondents and made ready for later collection. The identified professionals were civil engineers, materials engineers, geodetic engineers and quantity surveyors. A

total of forty (40) questionnaires were administered in person while a total ten (10) were administered via email. Out of the administered questionnaires, a total of thirty-five (35) questionnaires were retrieved manually, thirty (30) retrieved from the ones administered personally and five (5) retrieved from the ones administered via email.

### 3.8 Data Analysis

Descriptive analysis was used to describe the results from data received from the survey. The data was entered and broken down using the software package ‘Statistical Package for Social Scientists’ (SPSS v. 16) and Microsoft excel. Using frequency tables, pie charts, percentages and other descriptive statistics methods, the results were interpreted. The structured questionnaire was such that the respondents were able to provide responses by ticking against numbers on a 5-point Likert Scale which made it easier for analyses. Using Relative Importance Index (RII), a five-point Likert scale scoring system shaped the premise of computing the mean score for each of the reasons and variables considered. The relative rating of the variables by all respondents were then acquired by matching the individual mean score and their RII values for each variable.

Table 3.3 Rating System for the Questionnaire

<b>Likert Scale/Rating Score</b>	<b>Level of Agreement</b>
<b>1</b>	Strongly Disagree
<b>2</b>	Disagree
<b>3</b>	Neutral
<b>4</b>	Agree
<b>5</b>	Strongly Agree

## **CHAPTER FOUR**

### **DATA ANALYSIS AND DISCUSSION**

#### **4.1 Introduction**

This chapter sought to deal with the analysis and discussion of the results of data collected from survey, also relating it to secondary information available. Data was collected, re-sorted out, coded and manipulated with appropriate software for efficient analysis. Computerized software used included SPSS version 16.0 and Microsoft Excel. Results were in tables, pie charts, graphs and interpretation of results made as possible.

#### **4.2 Breakdown of Data Used for Analysis**

The valid results from the questionnaires administered to the respondents were analyzed and the various views and relevant responses are highlighted for discussion in this unit.

##### **1. Questionnaire Used for Survey**

A model of the questionnaire administered to the respondents is attached to the end of this research report as Appendix A. The total number of questionnaires distributed was forty (40). Questionnaires were given purposely to professionals who work in the selected Urban Roads Offices in Accra. Table 4.1 below displays the number and percentage of valid and invalid questionnaires administered and retrieved from the construction professionals.

Table 4.1 Statistical Data of valid and invalid questionnaires administered and received

<b>Respondents</b>	<b>Frequency</b>	<b>Percentage of Total %</b>
Valid	31	77.50
Invalid	4	10.00
Not Received	5	12.50
<b>Total</b>	40	100

Tables 4.1 above shows, a total of Forty (40) questionnaires were administered to persons in Management positions in the visited DUR offices in Accra. They included Metropolitan and Municipal Road Engineers (MRE's), Contract Managers, Maintenance Engineers, Quantity Surveyors and Sub-Metropolitan/Municipal Engineers. Out of the Forty (40) questionnaires administered, thirty-five (35) were retrieved and five (5) were not returned representing 87.5% and 12.5% respectively. Thirty-one (31) of the questionnaires were answered correctly representing 77.5% while four (4) were not properly completed and were therefore discarded representing 10% of the total number administered.

## **2. Interview Used For Survey**

A model of the questions used to conduct the interview is attached at the end of this research report as Appendix B. Using a convenience approach and based on availability of the interviewees; a total number of six (6) interviews were conducted. Hence a total number of six (6) persons were interviewed in order to get an unbiased opinion from just interviewing one professional to speak on behalf of the Urban Road Departments in Accra. Table 4.2 below shows the number, profile of interviewees and percentage of the respondents.

Table 4.2 Number and profile of respondents who were interviewed

<b>Offices &amp; Location</b>	<b>Respondents Profile</b>	<b>Frequency</b>	<b>Percentage of Total %</b>
Urban Roads Regional Office, Amasaman	Contracts Manager	1	16.667
Urban Roads Regional Office, Amasaman	Head of Quantity Section	1	16.667
Metropolitan Roads Unit, Kaneshie	Director, Roads Unit	1	16.667
Municipal Roads Unit, Amasaman	Director, Roads Unit	1	16.667
Municipal Roads Unit, Teshie- Nungua	Director, Roads Unit	1	16.667
Municipal Roads Unit, Teshie- Nungua	Director, Roads Unit	1	16.667
	<b>Total</b>	<b>6</b>	<b>100</b>

### 4.3 Analysis of Questionnaire Retrieved

As discussed in Unit 4.2, out of the forty (40) administered questionnaires, thirty-one (31) were valid and was used for this part of the analysis.

The survey questionnaires were sectioned into four (4) main parts that addressed the following areas relevant to the study:

#### 1. Section A

Questions 1 to 4 of the questionnaire (Appendix A) contained questions that were structured to access the respondents information i.e. Age of respondents,

Level of education and professional background, Service/Work experience and Training in any area of procurement. Section A is represented in unit 4.3.1.

## **2. Section B**

Questions 5 to 13 of the questionnaire (Appendix A) were structured to investigate the nature of Sustainable Public Procurement (SPP) in the respondent's entity. The Section assesses whether entities practice procurement planning, Level of awareness of SPP and how it is most commonly perceived, Designing sustainability into contracts and binding contractors to practice SPP as well as exploring how the three pillars of Sustainability (i.e. Environment, Social and Economic) are catered for during project implementation. Section B is represented in unit 4.3.2.

## **3. Section C**

The Section (Appendix A) was structured to deal mainly with the barriers and challenges restraining the practice of sustainable procurement that have been identified through review of available literature. Respondents were required to tick appropriate alternatives that best described their opinion using a scale of 1 to 5 i.e. 1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree. Section C is represented in unit 4.3.3. below.

## **4. Section D**

The Section (Appendix A) was structured to explore respondent's opinions on strategies that improve Sustainable Procurement Practice in International context using their experience in Ghana's Road Sector as a guide. Respondents were required to tick appropriate alternatives that best described their opinion using a scale of 1 to 5 i.e. 1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree. Section D is represented in unit 4.3.4.

### 4.3.1 Section A – Respondents Information

#### 1. Age of Respondent

The table below shows the age range of the respondents.

Table 4.3 Age of Respondent

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 20 - 30 years	11	35.5	35.5	35.5
31 - 45 years	14	45.2	45.2	80.6
46 - 60 years	6	19.4	19.4	100.0
Total	31	100.0	100.0	

From table 4.3 above, it could be seen that 11(35.5%) of the total respondents are between 20 – 30 years while 14(45.2%) of the total respondents are between 31 - 45 years and 6(19.4%) of total respondents are between 46 – 60 years.

#### 2. Respondents level of Education

The table below shows the highest level of education attained by the respondents.

Table 4.4 Respondents highest level of education attained

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid HND	6	19.4	19.4	19.4
BSC	16	51.6	51.6	71.0
MSC/MPHIL	9	29.0	29.0	100.0
Total	31	100.0	100.0	

From table 4.4 above, it shows that 6 (19.4%) of the total respondents are HND holders while 16(51.6%) of the total respondents have attained BSC and 9(29.0%) of total respondents have attained their Masters.

### 3. Respondents Professional Background

The table below gives statistics of the professional background of the respondents.

Table 4.5 Professional Background

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Engineer	14	45.2	45.2	45.2
Quantity Surveyor	17	54.8	54.8	100.0
Total	31	100.0	100.0	

From table 4.5 above, it shows that 14(45.2%) of the total respondents have an engineering professional background and 17(54.8%) of total respondents have a quantity surveying professional background.

#### 4. Respondents service/working period

The table below shows the level of respondents experience and service/working period.

Table 4.6 How long have you been in service/working period

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid less than 5 years	10	32.3	32.3	32.3
5 - 10 years	5	16.1	16.1	48.4
more than 10 years	16	51.6	51.6	100.0
Total	31	100.0	100.0	

From table 4.6, it shows that 10(32.3%) of the total respondents have being working for less than 5years whiles 5(16.1%) of the total respondents having being working between 5-10 years and 16(51.6%) of total respondents has worked for more than 10 years.

It can be seen that majority of the respondents (51.6%) have more than 10 years of experience in the construction business and can therefore be trusted to give credible response on the survey been conducted. However 67.7% of the respondents have worked more than 5years and could therefore be trusted to give relevant opinions.

## 5. Respondents training in public procurement

The table below shows statistics of responses as to whether or not respondents have had any form of training in public procurement.

Table 4.7 Have you had any form of training in public procurement before?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	21	67.7	70.0	70.0
	No	9	29.0	30.0	100.0
	Total	30	96.8	100.0	
Missing	99	1	3.2		
Total		31	100.0		

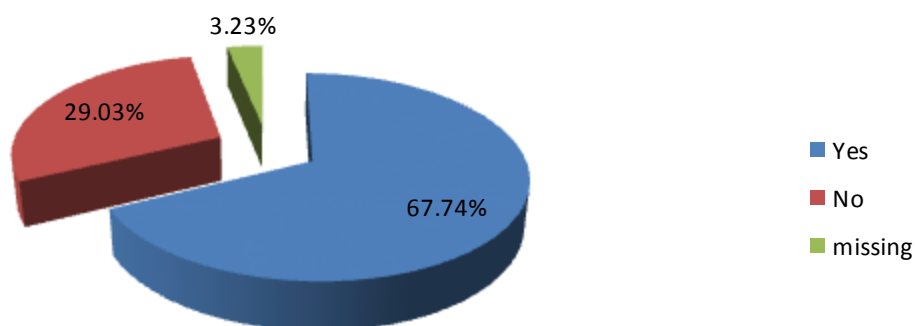


Figure 4.1: Chart of Response rate to "Have you had any form of training in public procurement before?"

From Figure 4.1 above, with statistics drawn from Table 4.7, shows that 21(67.74%) of the respondents said yes, they have had some form training in public procurement while 9(29.03%) of the respondents said no, they have not been trained in public procurement before and 1 (3.2) of the respondents did not respond.

The table below shows areas public procurement respondents have been trained in.

Table 4.8 Areas of public procurement respondents are trained in

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Procurement of Works	10	32.3	50.0	50.0
	Procurement of Works and Consultant Services	8	25.8	40.0	90.0
	Contract Mangement	2	6.5	10.0	100.0
	Total	20	64.5	100.0	
Missing	99	11	35.5		
Total		31	100.0		

From Table 4.8 above, statistics show that 10(32.3%) of the respondents are trained in public procurement of works while 8(25.8%) of the respondents are trained in public procurement of works and consultant services and 2(6.5) of the respondents have had training in contract management. However 11(35.5%) of the respondents did not state any form training they have had in public procurement.

#### **4.3.2 Section B – Nature of Public Procurement at Respondent’s Entity**

##### **1. How often Urban Road Offices procure new projects**

The table below shows data on how respondent’s entity often procure new projects.

Table 4.9 How often does your entity procure new projects?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Quarterly	9	29.0	29.0	29.0
Biannually	19	61.3	61.3	90.3
Yearly	1	3.2	3.2	93.5
When the need Arises	2	6.5	6.5	100.0
Total	31	100.0	100.0	

Table 4.9 above shows that 9(29.0%) of the respondents said their entities procure new projects quarterly while 19(61.3%) of the respondents said their entities often procure new projects biannually and 2(6.5) of the respondents said their entities procure new projects as far as the need for the project arises.

From the statistics above it could be said that, Urban Road Offices most often procure new projects twice or more in a fiscal year biannually, quarterly and when there is need for it.

## 2. Procurement Planning in respondents entity

The Table below shows statistics on whether or not Urban Road Offices prepare an annual procurement plan.

Table 4.10 Does your entity prepare an annual procurement plan?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	23	74.2	82.1	82.1
	No	5	16.1	17.9	100.0
	Total	28	90.3	100.0	
Missing	99	3	9.7		
Total		31	100.0		

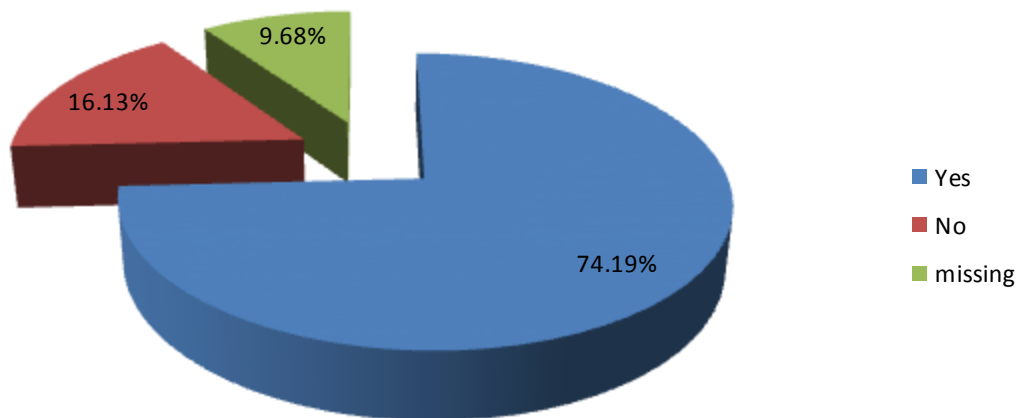


Figure 4.2: Chart of Response rate to "Does your entity prepare an annual procurement plan?"

From Figure 4.2 above, with statistics drawn from Table 4.10, shows that 23(74.2%) of the respondents said yes, their entities prepare an annual procurement plan while 5(16.1%) of the respondents said no, their entities does not prepare an annual procurement plan and 3(9.7) of the respondents did not respond.

The table below shows when entities prepare and submit their procurement plans.

Table 4.11 When do you prepare and submit the said procurement plan

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid After Approval of the Budget and Before the End of a fiscal year	21	67.7	100.0	100.0
Missing 99	10	32.3		
Total	31	100.0		

From Table 4.11 above, statistics show that 21(67.7%) of the respondents said their entity prepare their annual procurement plan after approval of the budget and before the end of a fiscal year. However 10(32.3%) of the respondents did not comment on when they prepare and submit their plan.

### **3. Level of Awareness of Sustainable Public Procurement (SPP) at respondents Entity**

The Table below shows statistics on the level of awareness of Sustainable Public Procurement (SPP) at urban road offices.

Table 4.12 Are you aware of Sustainable Public Procurement (SPP) at your Roads Unit?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	22	71.0	71.0	71.0
No	9	29.0	29.0	100.0
Total	31	100.0	100.0	

From Figure 4.3 below, with statistics drawn from Table 4.12 above, shows that 22(70.97%) of the respondents said yes, they aware of Sustainable Public Procurement at their entity and 9(29.03%) of the respondents said no, they not aware of Sustainable Public Procurement at their entity.

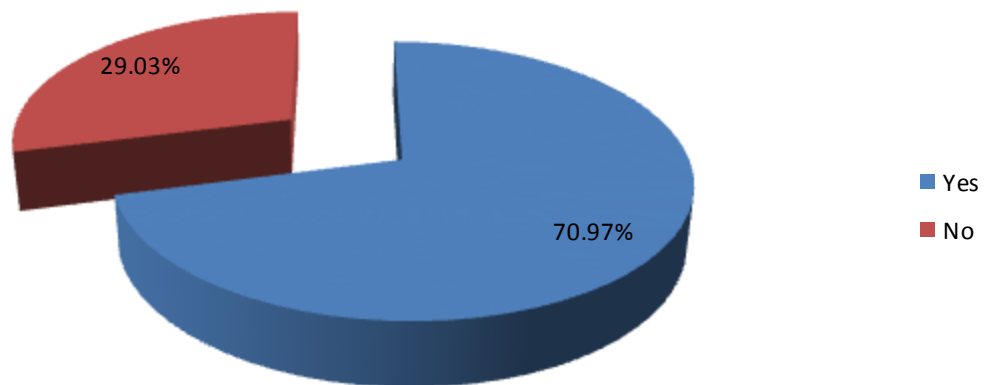


Figure 4.3: Chart of Response rate to "Are you aware of Sustainable Public Procurement (SPP) at your Roads Unit?"

**4. Are contractors bound to practice of Sustainable Procurement in your outfit**

The Table below shows data on whether or not contractors in the road sector are bound by a general code to practice Sustainable Procurement.

Table 4.13 Is there a general code of conduct for contractors concerning the practice of Sustainable Procurement in your outfit?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	20	64.5	64.5	64.5
No	11	35.5	35.5	100.0
Total	31	100.0	100.0	

From Figure 4.5 below, with statistics drawn from Table 4.13 above, shows that 20(64.52%) of the respondents said yes, there is a general code of conduct for contractors concerning the practice of Sustainable Procurement in their outfit and 11(35.48%) of the respondents said no, there is no general code of conduct for contractors concerning the practice of Sustainable Procurement in their outfit.

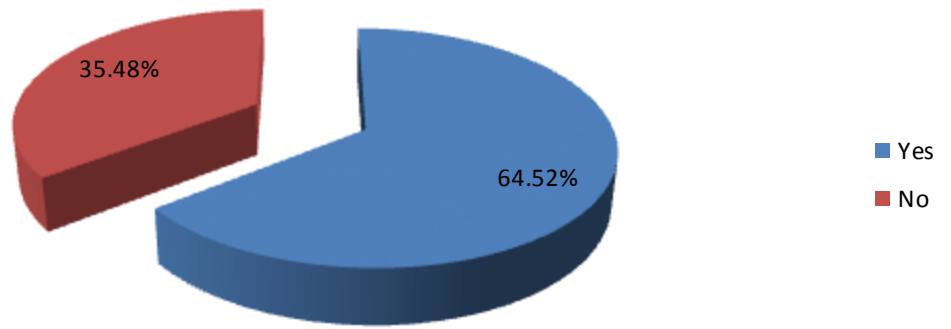


Figure 4.4: Chart of Response rate to "Is there a general code of conduct for contractors concerning the practice of Sustainable Procurement in your outfit?"

**5. Existence of a system in place to manage environmental impacts during project implementation in respondents entity**

The Table below shows statistics on whether or not there is a system in place to manage the environmental impacts during project implementation in respondent's entity.

Table 4.14 Is there a system in place to manage the environmental impacts during project implementation in your outfit?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	19	61.3	65.5	65.5
	No	10	32.3	34.5	100.0
	Total	29	93.5	100.0	
Missing	99	2	6.5		
Total		31	100.0		

From Figure 4.6 below, with statistics drawn from Table 4.14, shows that 19(61.29%) of the respondents said yes, their entities have a system to manage environmental impacts during project implementation while 10(32.26%) of the respondents said no, their entities have no systems to manage environmental impacts during project implementation and 2(6.45%) of the respondents did not respond.

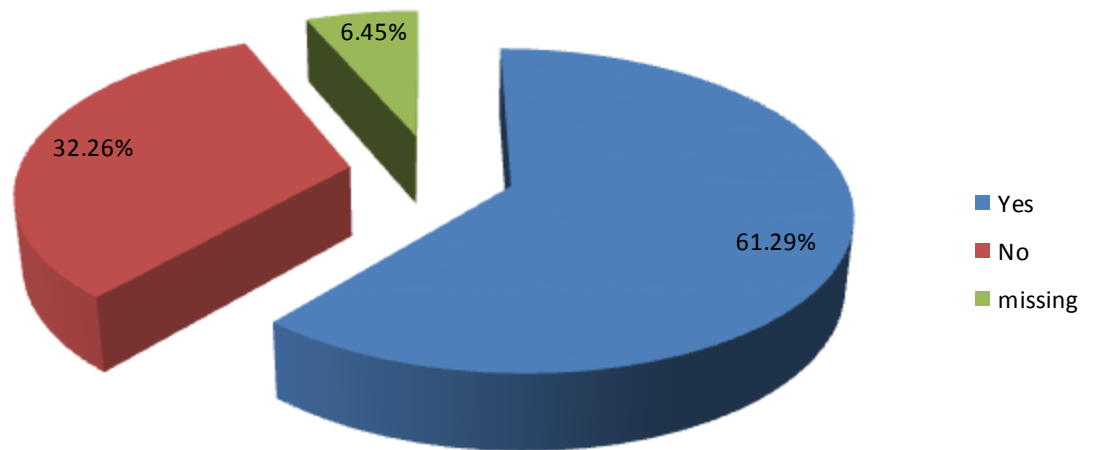


Figure 4.5: Chart of Response rate to "Is there a system in place to manage the environmental impacts during project implementation in your outfit?"

#### **6. Existence of a system in place to manage social impacts during project implementation in respondents entity**

The Table below shows statistics on whether or not there is a system in place to manage the social impacts during project implementation in respondent's entity.

Table 4.15 Is there a system in place to manage the social impacts during project implementation in your outfit?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	23	74.2	79.3	79.3
	No	6	19.4	20.7	100.0
	Total	29	93.5	100.0	
Missing	99	2	6.5		
Total		31	100.0		

From Figure 4.7 below, with statistics drawn from Table 4.15, shows that 23(74.19%) of the respondents said yes, their entities have a system to manage social impacts during project implementation while 6(19.35%) of the respondents said no, their entities have no systems to manage social impacts during project implementation and 2(6.45%) of the respondents did not respond.

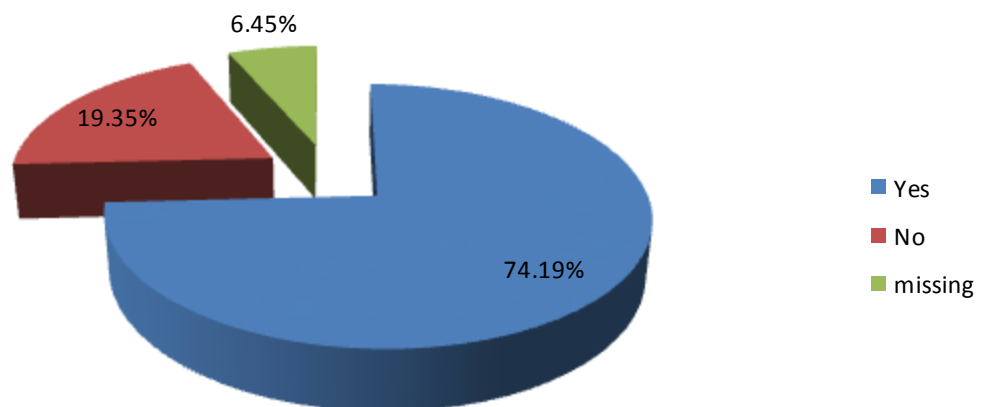


Figure 4.6: Chart of Response rate to "Is there a system in place to manage the social impacts during project implementation in your outfit?"

**7. Existence of a system in place to manage economic impacts during project implementation in respondents entity**

The Table below shows statistics on whether or not there is a system in place to manage the economic impacts during project implementation in respondent's entity.

Table 4.16 Is there a system in place to manage the economic impacts during project implementation in your outfit?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	24	77.4	77.4	77.4
No	5	16.1	16.1	93.5
99	2	6.5	6.5	100.0
Total	31	100.0	100.0	

From Figure 4.8 below, with statistics drawn from Table 4.16, shows that 24(77.42%) of the respondents said yes, their entities have a system to manage economic impacts during project implementation while 5(16.13%) of the respondents said no, their entities have no systems to manage economic impacts during project implementation and 2(6.45%) of the respondents did not respond.

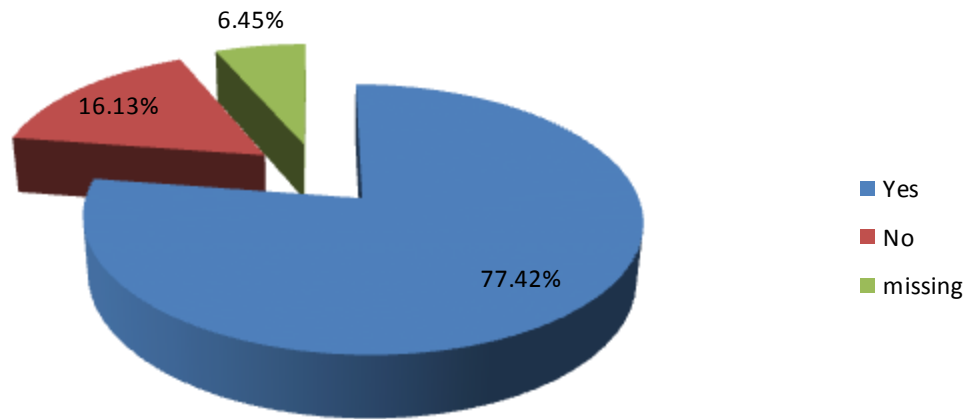


Figure 4.7: Chart of Response rate to "Is there a system in place to manage the economic impacts during project implementation in your outfit?"

#### 4.3.3 Section C – Barriers and challenges restraining the practice of Sustainable Procurement at Respondent’s Entity

Part C of the research analysis, barriers and challenges restraining the practice of Sustainable Procurement are ranked using the Relative Importance Index (RII) which is a good statistical tool to compute the relative significance of every barrier and challenge considered here.

Relative Importance Index of each barrier and challenge is given by:

$$\text{Relative Importance Index (RII)} = \frac{\sum W}{AN}$$

Where, W = the weighing given to every variable by the respondents, ranging from 1 to 5;

A = the highest weight (i.e. 5 in the study), N = the total number of samples. (i.e. 31 in the research study)

After the analyses the variable with the highest RII emerged 1st indicating high importance of such item and vice versa.

The table below shows the ranking by relative importance index the barriers and challenges restraining the practice of Sustainable Procurement in the Road Sector in Accra.

Table 4.17 Barriers and challenges restraining the practice of Sustainable Procurement

	KEY BARRIERS AND CHALLENGES RESTRAINING THE PRACTICE OF SUSTAINABLE PROCUREMENT	RATING					TOTAL	ΣW	Mean	RII	Rank
		1	2	3	4	5					
1	Sustainable Public Procurement (SPP) is too complex and expected to increase the cost for public procurement	13	10	1	7	0	31	64	2.0645	2.1333	15 <sup>th</sup>
2	Lack of guidance material and practical tools on SPP	2	1	5	18	5	31	116	3.7419	3.867	8 <sup>th</sup>
3	Legal framework does not allow/encourage SPP	2	12	7	9	1	31	88	2.83871	2.933	14 <sup>th</sup>
4	Lack of Managerial/ Structural Capacity to undertake SPP	0	9	3	19	0	31	103	3.3226	3.433	12 <sup>th</sup>
5	Political/ Cultural interference	1	2	1	14	13	31	129	4.1613	4.3	1 <sup>st</sup>
6	Contractors are not prepared to deliver sustainable construction works	1	6	3	11	10	31	116	3.7419	3.867	8 <sup>th</sup>
7	Lack of monitoring tools	1	1	1	24	4	31	122	3.93548	4.067	2 <sup>nd</sup>
8	Lack of consent about sustainability	3	2	12	14	0	31	99	3.19355	3.3000	13 <sup>th</sup>
9	Economic Uncertainty and Cost Issues/Inflexible Budgetary Systems	0	2	9	19	1	31	112	3.6129	3.7333	10 <sup>th</sup>
10	Absence of Strong Regulatory Framework	1	4	3	14	9	31	119	3.8387	3.9667	6 <sup>th</sup>
11	Conflict between Short Term and Long-Term Strategic Goals	0	0	11	16	4	31	117	3.7742	3.9000	7 <sup>th</sup>
12	Poor Management Policies	0	4	1	21	5	31	120	3.87097	4.0000	5 <sup>th</sup>
13	Lack of Information, Training and Accountability	0	3	4	17	7	31	121	3.9032	4.0333	4 <sup>th</sup>
14	Absence of a Single Uniform Approach for Defining Criteria/Norms	0	3	10	14	4	31	112	3.6129	3.7333	10 <sup>th</sup>
15	Lack of Environmental Awareness among Society	0	3	4	16	8	31	122	3.9355	4.0667	2 <sup>nd</sup>

From table 4.17 above, amongst the barriers and challenges restraining the practice of Sustainable Procurement ranked in order of importance, below are the list of the first five (5) barriers and challenges ranked in descending order of importance based on their Relative Important Index (RII) values:

1. 1<sup>st</sup> - Political/ Cultural interference
2. 2<sup>nd</sup> - Lack of Environmental Awareness among Society
3. 2<sup>nd</sup> - Lack of monitoring tools
4. 4<sup>th</sup> - Lack of Information, Training and Accountability
5. 5<sup>th</sup> - Poor Management Policies

Amongst the ranked barriers and challenges, ‘Lack of consent about sustainability’, ‘Legal framework does not allow/encourage SPP’ and ‘Sustainable Public Procurement (SPP) is too complex and expected to increase the cost for public procurement’ had the least RII values i.e. 3.3, 2.933 and 2.133 respectively and therefore considered the least momentous barriers and challenges restraining the practice of Sustainable Procurement in the road sector in Accra.

#### **4.3.4 Section D – Strategies That Improve Sustainable Procurement Practice at Respondent’s Entity**

The table below shows the ranking by relative importance index the Strategies That Improve Sustainable Procurement Practice in the Road Sector in Accra. These strategies have been identified from international context as key areas that improve Sustainable Procurement Practice.

Still using the formulae as discussed in unit 4.3.3, i.e. Relative Importance Index

$$(RII) = \sum \frac{W}{AN}$$

The table below shows the ranking by RII the strategies that improve Sustainable Procurement practice in the Road Sector in Accra.

Table 4.18 Strategies That Improve Sustainable Procurement Practice

	STRATEGIES THAT IMPROVE SUSTAINABLE PROCUREMENT PRACTICE	RATING					TOTAL	$\Sigma W$	Mean	RII	Rank
		1	2	3	4	5					
1	Top/Middle Management being equipped with Knowledge/expertise in SPP	0	2	4	16	9	31	125	4.0323	4.1667	6 <sup>th</sup>
2	Presence of procurement planning, strategies & goal setting	0	1	0	23	7	31	129	4.1613	4.3	3 <sup>rd</sup>
3	Employees Individual/personal commitment towards Sustainability	0	1	1	21	8	31	129	4.16129	4.3	3 <sup>rd</sup>
4	Reward, Measurement and Benchmarking Systems	0	2	4	16	9	31	125	4.0323	4.167	6 <sup>th</sup>
5	Collaboration with contractors in a way to achieve Sustainability	0	1	0	21	9	31	131	4.2258	4.367	2 <sup>nd</sup>
6	Contractors are not prepared to deliver sustainable construction works	0	3	10	16	2	31	110	3.5484	3.667	10 <sup>th</sup>
7	Government Support/ Legislation and Policies	0	0	3	20	8	31	129	4.16129	4.3	3 <sup>rd</sup>
8	Capacity building, Education and Training of Stakeholders	0	2	0	17	12	31	132	4.25806	4.4	1 <sup>st</sup>
9	Societal Pressure (e.g. NGOs, green promotion groups, media e.t.c)	0	0	10	21	0	31	114	3.6774	3.8000	9 <sup>th</sup>
10	Encouraging Competition	1	3	4	12	11	31	122	3.9355	4.0667	8 <sup>th</sup>

From table 4.18 above, amongst the Strategies That Improve Sustainable Procurement Practice ranked in order of importance, below are the list of the first five (5) strategies ranked in descending order of importance based on their Relative Importance Index (RII) values:

1. 1<sup>st</sup> - Capacity building, Education and Training of Stakeholders
2. 2<sup>nd</sup> - Collaboration with contractors in a way to achieve Sustainability
3. 3<sup>rd</sup> - Employees Individual/personal commitment towards Sustainability
4. 3<sup>rd</sup> - Government Support/ Legislation and Policies
5. 3<sup>rd</sup> - Presence of procurement planning, strategies & goal setting

Amongst the ranked strategies, 'Encouraging Competition', 'Societal Pressure (e.g. NGOs, green promotion groups, media e.t.c)' and 'Contractors are not prepared to deliver sustainable construction had the least RII values i.e. 4.0667, 3.8 and 3.667 respectively and therefore considered the least significant Strategies that improve Sustainable Procurement Practice in the road sector in Accra.

#### **4.4 Analysis of Interview Conducted**

As discussed in Unit 4.2, a total of six (6) interviews were conducted. All six (6) interviewee's opinions and thoughts on the interview questions in Appendix B are discussed in this part of the analysis.

From table 4.4.2 in unit 4.2, which showed the profile of the interviewees used for the analysis and discussions, it is obvious that their credentials justify the credibility of the information provided and can therefore be relied upon as a true representation of the nature of Sustainable Procurement in the road sector in Accra.

The interview questions were grouped into two (2) main parts that addressed the following areas relevant to the study:

## 1. Part One (1)

Questions 1 to 5 of the interview questions (Appendix B) contained questions that were structured to access the interviewees profile i.e. Age of interviewee, Level of education, Professional background, Service/Work experience and Position held. Part 1 is represented in unit 4.4.1.

## 2. Part Two (2)

Questions 6 to 12 of the interview questions (Appendix B) were structured to investigate the nature of Sustainable Public Procurement (SPP) in the road sector in Accra. The questions assessed whether contract requirements meet sustainability considerations, how contractors are bound to practice SPP and how sustainability impacts (i.e. Environment, Social and Economic) are managed during project implementation. Part 2 is represented in unit 4.4.2.

### 4.4.1 Part 1 – Interviewee’s Information

#### 1. Age of Interviewees

The table below shows the age range of the interviewees.

Table 4.19 Age of Interviewee

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 20 - 30 years	1	16.67	16.67	16.67
31 - 45 years	4	66.67	66.67	83.34
46 - 60 years	1	16.67	16.67	100.0
Total	6	100.0	100.0	

From table 4.19 above, it could be seen that 1(35.5%) of the total interviewees was between 20 – 30 years while 4(66.67%) of the total interviewees were between 31 - 45 years and 1(16.67%) of total interviewees was between 46 – 60 years.

## 2. Interviewees level of Education

The table below shows the highest level of education attained by the interviewees.

Table 4.20 Interviewees highest level of education attained

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid BSC	2	33.3	33.3	33.3
MSC/MPHIL	4	66.7	66.7	100.0
Total	6	100.0	100.0	

From table 4.20 above, it shows that 2 (33.3%) of the total interviewees have attained BSC and 4(66.7%) of total interviewees have attained their Masters.

## 3. Interviewees service/working period

The table below shows the level of interviewees experience and service/working period.

Table 4.21 How long have you been in service/working period

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 5 - 10 years	2	33.3	33.3	33.3
more than 10 years	4	66.7	66.7	100.0
Total	6	100.0	100.0	

From table 4.21, it shows that 2(33.3%) of the total interviewees have being working between 5-10 years and 4(66.7%) of total interviewees has worked for more than 10 years.

It can be seen that majority of the interviewees (66.7%) have more than 10 years of working experience in the road sector and can therefore be trusted to give credible opinions and thoughts on the survey been conducted. However all the interviewees (100%) have worked more than 5years and could therefore be trusted to give relevant opinions.

#### 4. Interviewees Professional Background

The table below gives statistics of the professional background of the interviewees.

Table 4.22 Professional Background

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Engineer	3	50.0	50.0	50.0
Quantity Surveyor	3	50.0	50.0	100.0
Total	6	100.0	100.0	

From table 4.22 above, it shows that 3 (50.0%) of the total interviewees have an engineering professional background and 3 (50.0%) of the total interviewees have a quantity surveying professional background.

**4.4.2 Part 2 – Nature of Sustainable Public Procurement at Department of Urban Roads**

**1. Policy document to implement Sustainable Procurement at DUR**

The table below gives data on whether or not urban road offices have a policy in place to implement Sustainable Public Procurement practices.

Table 4.23 Is there a policy in place to ensure implementation of sustainable procurement practice at your outfit?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	0	0.0	0.0	0.0
No	6	100.0	100.0	100.0
Total	6	100.0	100.0	

The interviewees were asked if there is a policy document in place to govern Sustainable Public Procurement at Urban Roads Offices.

From Table 4.23 above, all the interviewees (100%) said no, there was no policy document that governs Sustainable Public Procurement at Urban Roads Offices.

**2. Existence and use of a procurement manual at DUR**

The table below gives data on whether or not urban road offices use a procurement manual in their procurement of works.

Table 4.24 Does your department have and use a procurement manual?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	6	100.0	100.0	100.0
No	0	0.0	0.0	100.0
Total	6	100.0	100.0	

The interviewees were asked whether there was a procurement manual used for procurement at Urban Roads Offices. From Table 4.24 above, all the interviewees (100%) said yes, they had a procurement manual been used at Urban Roads Offices.

**3. In defining the requirements of a contract, what are some of the important sustainability considerations?**

This part entails discussions based on questions (Appendix B) posed to the interviewees to ascertain the sustainability considerations when defining the requirements of a contract at urban road offices. The following is a summary of contributions made by the six (6) interviewees concerning sustainability considerations:

**4. Economic Considerations**

Interviewees said value for money considerations including price of project, time duration, economically good construction and quality of materials and resources used were the economic considerations made when defining requirements of contracts. Also the availability of fund to execute project was paramount and an assessment was made by the technical team to determine the requirements of a project.

## **5. Social Considerations**

Interviewees said the usefulness of the project in solving the problems in the society where project is located as well as social responsibility within communities are the social considerations in defining contracts. Road projects are sometimes packaged to provide infrastructure such as hospitals, schools, clinics, toilets and urinals amongst others aimed at poverty eradication in such communities. Some projects factor in HIV/AIDS awareness campaigns, malaria prevention measures and even distribution of condoms. An example is the GAMA Water and Sanitation project which is aimed at alleviating flood risk in communities.

## **6. Environmental Considerations**

Interviewees did not say much about environmental considerations in defining the requirements of a contract except for the fact that urban road offices collaborate with Environmental Protection Agency (EPA) to ensure projects do not have negative effects in the communities they are suited in.

## **7. Is there a general code of conduct for contractors concerning the practice of Sustainable Procurement in your outfit? Please state how the above is catered for at your entity.**

This part entails discussions based on questions (Appendix B) posed to the interviewees to ascertain what bounds contractors to practice Sustainable Procurement (SP).

The following is a summary of contributions made by the six (6) interviewees on how contractors are bound to practice SP:

Interviewees said there is no one precise single code of conduct for contractors to practice SP, however through pre-tender meetings and signing of contractual documents bounds contractors to follow the laid down rules and regulations laid

down in these documents. Sustainable Procurement practices are embodied in this rules and regulations.

The following are some the binding documents and activities the interviewees mentioned:

- i. Adherence to works and material specifications
- ii. Instructions to bidders
- iii. Conditions of contract
- iv. Compliance with public procurement rules
- v. Requesting contractors to submit method statement and check for compliance with stated requirements

#### **8. How are Environmental impacts managed during project implementation?**

This part entails discussions based on questions (Appendix B) posed to the interviewees to ascertain how urban road offices manage Environmental impacts during project implementation.

The following is a summary of contributions made by the six (6) interviewees on how Environmental impacts are managed:

- i. Interviewees said provisions are made for contractors to reinstate borrowed pits to prevent them from becoming breeding places for mosquitoes and pests.
- ii. Also objectionable odour from damp sites is treated to prevent public nuisance. Contractors are required to water road surface to void dust pollution, reduced cutting of trees and meeting with stakeholders to remind them of environmental management practices.

- iii. Also urban road offices collaborate with Environmental Protection Agency (EPA) to manage environmental impacts during project implementation.

### **9. How are social impacts managed during project implementation?**

This part entails discussions based on questions (Appendix B) posed to the interviewees to ascertain how urban road offices manage Social impacts during project implementation.

The following is a summary of contributions made by the six (6) interviewees on how Social impacts are managed:

- i. Interviewees said there are social intervention projects to alleviate poverty in communities where major roads are constructed e.g. building schools, hospitals, clinics, Bath and toilet amongst others.
- ii. Interviewees said projects are capital intensive and most often residents are engaged in the labour aspect of the project. This creates jobs for community folks.
- iii. Also, provision of traffic warning signs to ensure safety of road users and the community as a whole. Designs ensure that communities are not cut off/separated from the township and neighbouring communities.
- iv. Traffic management is ensured during construction. Contractors are made to submit a traffic management plan, manage traffic and pedestrian crossing during execution of project.
- v. Construction in a way the addresses the need for employment, care and welfare of children, elderly, those with disability, adults lacking basic skills and other population groups.

## **10. How are Economic impacts managed during project implementation?**

This part entails discussions based on questions (Appendix B) posed to the interviewees to ascertain how urban road offices manage Economic impacts during project implementation.

The following is a summary of contributions made by the six (6) interviewees on how Economic impacts are managed:

- i. Interviewees said alternate routes are provided to ensure a reduction in traffic time spent on roads under construction in order to maximize free flow of operations and businesses. Also projects are carefully selected so as not to cause undue traffic congestion and inconvenience to businesses along the corridor and the potential road users as well.
- ii. Also, the entire Technical team packages contracts to make sure that cost are within budget estimated and checks are put in place to mitigate cost overruns. Monthly Interim Payment Certificates (IPCs) are prepared during project implementation and total amount of IPCs are compared with contract sum so as not to exceed estimated contract sum.
- iii. Interviewees also said checks are put in place to ensure a reduction of wastage of materials during construction to achieve economic responsible construction. Site Engineers from urban road offices are assigned to projects and quantity surveyors are keenly involved on cost related issues to maintain a sustained development essential for long term growth.

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATION

#### 5.1 Introduction

The aim of the study was to help promote Sustainable Procurement (SP) within the road sector in Ghana with focus on Greater Accra. In light of this, a questionnaire survey was conducted using 31 professionals who work in the Department of Urban Road (DUR) offices. Also, interviews were conducted using six (6) heads of DUR offices and managers who by their nature of work make procurement decisions on behalf of their entities. The respondents and interviewees were civil engineers, materials engineers, geodetic engineers and quantity surveyors by profession. Using SPSS v16 and Microsoft excel, the data collected from the survey were grouped together and were analyzed, and the following observations and conclusions were drawn.

#### 5.2 Summary and Conclusion

Based on the objectives of the study, the following findings and conclusions were drawn;

**Objective one (1):** To investigate the current nature of Sustainable Public Procurement in DUR Offices in Greater Accra.

1. The study found that DUR offices often procure new projects twice a year and they do so using annual procurement plans which is prepared after approval of the budget and submitted prior to the start of each fiscal year.
2. Majority of the professionals were aware of Sustainable Public Procurement (SPP) at DUR. SPP was most commonly perceived as economically responsible procurement and socially responsible procurement with little

consideration given to environmentally friendly procurement. Road projects in their nature have moderate impact on the environment and much effort is not required to curb any nuisance that may arise.

3. Majority of the professionals said contractors who are engaged by DUR were bound to practice Sustainable Procurement. However, there is no one single general code of conduct that bounds these contractors rather the provisions made in the contract they sign. These included the works and material specifications, conditions of contract and instructions to bidders amongst others.
4. Majority of the professionals agreed that DUR had systems in place to manage environmental impacts during project implementation. But these systems were not embodied in any writing binding documents but rather provisions that required contractors to reinstate burrowed pits, treat objectionable odour from damp sites and watering of road surfaces to prevent dust pollution. These were the identified environmental impacts that usually occur during project implementation.
5. Majority of the professionals agreed that DUR had systems in place to manage social impacts during project implementation.
6. Majority of the professionals agreed that DUR had systems in place to manage economic impacts during project implementation.
7. In defining the requirements of a contract, the survey showed that DUR Offices considered all the three pillars of Sustainable Procurement (i.e Environmental, Social and Economic considerations) in defining contract requirements.

8. The interview conducted with the heads of DUR offices revealed that, there was no policy document on sustainable procurement in place that mandated Urban Road Offices to carryout sustainable procurement. Although DUR has a procurement manual for procurement, it is mostly based on the public procurement act, Act 663 of 2003 which had little sustainable procurement considerations. The lack of sustainable procurement policy document at DUR is a major setback to the practice of Sustainable Procurement.

**Objective two (2):** To outline key barriers and challenges restraining the practice of Sustainable Procurement in the Road Sector in Ghana.

The survey revealed that the following barriers and challenges were most significant in restraining the practice of Sustainable Procurement in the Road Sector in Ghana. These barriers and challenges are listed below in descending order based on their significance:

1. Political/ Cultural interference
2. Lack of Environmental Awareness among Society
3. Lack of monitoring tools
4. Lack of Information, Training and Accountability
5. Poor Management Policies
6. Absence of Strong Regulatory Framework
7. Conflict between Short Term and Long-Term Strategic Goals
8. Contractors are not prepared to deliver sustainable construction works

**Objective three (3):** To identify strategies that can be adopted to mitigate these identified barriers and challenges.

The survey revealed that the following strategies were most significant in mitigate these identified barriers and challenges in the Road Sector in Ghana. These strategies are listed below in descending order based on their significance:

1. Capacity building, Education and Training of Stakeholders
2. Collaboration with contractors in a way to achieve Sustainability
3. Employees Individual/personal commitment towards Sustainability
4. Government Support/ Legislation and Policies
5. Presence of procurement planning, strategies & goal setting

### **5.3 Recommendation**

Based on the conclusions and deductions made to this study, the following recommendations are suggested to help promote Sustainable Procurement (SP) within the road sector in Ghana.

1. The enforcement of a policy document on sustainable procurement at Department of Urban Roads to encourage the practice of Sustainable Procurement.
2. The government's reactiveness to fast track the use of the amended act i.e Act 914, 2016 which includes sustainable requirements such as environmental, social and economic issues of sustainability in public procurement.
3. Capacity building, Education and Training of Stakeholders to enhance their skills and knowledge to effectively practice Sustainable Procurement.

4. Road design must be aimed at reducing the use of non-renewable natural materials. Also, design must not change the water quality and hydrology of the area and safety issues should also be considered.
5. Traditional procurement must become a thing of the past and sustainable procurement enhanced to become the norm.

#### **5.4 Limitations of the Study**

Below were some hitches that were encountered during the survey:

1. Busy schedules of the targeted respondents did not permit the researcher to have quality time to conduct a rigorous interview. Also due to the dispersed location of DUR offices, some offices in Accra were not used for the survey.
2. Unwillingness of the targeted professionals to provide detailed and accurate information due to conflicting interests making data collection difficult and bias.
3. Due to time and resource constraints just a handful of DUR Offices' were visited and was difficult to revisit respondents who postponed their meeting for the survey.

#### **5.5 Further Research**

Since this study was conducted at a time when public procurement in Ghana had that just shifted to a new regime under the Public Procurement Amendment Act, 2015 (ACT 914), there is therefore a need for future research to assess the effectiveness of the usage of the new Law in promoting Sustainable Procurement in the Road Sector of Ghana. Also the scope of future research can be broadened to other departments and agencies under the Ghanaian Road Sector.

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APPENDIX A

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,  
KUMASI**

**MASTER OF SCIENCE IN PROCUREMENT MANAGEMENT**

**QUESTIONNAIRE**

**RESEARCH TOPIC:** PROMOTING SUSTAINABLE PROCUREMENT WITHIN THE ROAD SECTOR IN GHANA: A CASE STUDY OF METROPOLITAN/MUNICIPAL AND DISTRICT ASSEMBLY ROAD UNITS IN ACCRA

**INTRODUCTION:**

The Questionnaire is intended to collect data that will help the researcher to examine the practice of Sustainable Procurement (SP) within the road sector in Ghana. The exercise is strictly for academic purpose. Any information provided will be treated confidential and no name will be ascribed to any response.

Researcher's Name: Jones Seyram Agbenyah

Supervised by: Professor Bernard K. Baiden

*Any queries could be forwarded to my email address; [mixusd@yahoo.com](mailto:mixusd@yahoo.com) or Tel; 0245042812*

Please read through the following questions and answer them accordingly:

**SECTION A: RESPONDENTS INFORMATION**

1. Age of respondent.

20 – 30 years [ ]    31 – 45 years [ ]    46 – 60 years [ ]    61 years and above [ ]

2. What is the highest level of education attained?

HND [ ]    BSC [ ]    MSC/MPHIL [ ]    PHD [ ]

Others (specify).....

Professional Background: .....

3. How long have you been in service/working period?

Less than 5 years [ ]    5-10years [ ]    more than 10 years [ ]

4. Have you had any form of training in public procurement before?

Yes  No

If yes, please indicate the areas of public procurement you are trained in

.....  
.....

***PREMABLE: Sustainable Procurement is a process whereby organizations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organization, but also to society and the economy whilst minimizing damage to the environment”***

## **SECTION B: SUSTAINABLE PUBLIC PROCUREMENT IN YOUR OUTFIT**

**5.** How often does your entity procure new projects?

Monthly  Quarterly  Yearly

Others (please specify)

.....

**6.** Does your entity prepare an annual procurement plan?

Yes  No

If yes, when do you prepare and submit the said procurement plan

.....  
.....

**7.** Are you aware of Sustainable Public Procurement (SPP) at your Roads Unit?

Yes  No  others specify

.....

How is SPP most commonly perceived at your entity? Please rank in the order (1, 2, and 3) where 3 is the most commonly perceived.

Environmentally friendly procurement

Socially responsible procurement

Economically responsible procurement

8. Are you aware of a general code of conduct for contractors concerning the practice of Sustainable Procurement in your outfit?

Yes [ ] No [ ]

Please state how the above is catered for at your entity

.....  
.....  
.....  
.....

9. Are you aware of a system in place to manage the **environmental impacts** during project implementation in your outfit?

Yes [ ] No [ ]

Specify if any.....

11. Are you aware of a system in place to manage the **social impacts** during project implementation in your outfit?

Yes [ ] No [ ]

Specify if any.....

12. Are you aware of a system in place to manage the **economic impacts** during project implementation in your outfit?

Yes [ ] No [ ]

Specify if any.....

13. Any other opinions on Sustainable Procurement in the Road Sector?

.....  
.....  
.....  
.....  
.....



5. Political/ Cultural interference					
6. Contractors are not prepared to deliver sustainable construction works					
7. Lack of monitoring tools					
8. Lack of consent about sustainability					
9. Economic Uncertainty and Cost Issues/Inflexible Budgetary Systems					
10. Absence of Strong Regulatory Framework					
11. Conflict between Short Term and Long-Term Strategic Goals					
12. Poor Management Policies					
13. Lack of Information, Training and Accountability					
14. Absence of a Single Uniform Approach for Defining Criteria/Norms					
15. Lack of Environmental Awareness among Society					

**SECTION D: STRATEGIES THAT IMPROVE SUSTAINABLE PROCUREMENT PRACTICE**

The following are a list of some strategies that improve Sustainable Procurement Practice in International context. Using the scale from 1 to 5 indicate the extent of your agreement by **ticking** the appropriate alternative that best describes your opinion.

*1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree*

<b>IMPROVEMENT STRATEGIES</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1. Top/Middle Management being equipped with Knowledge/expertise in SPP					
2. Presence of procurement planning, strategies & goal setting					
3. Employees Individual/personal commitment towards Sustainability					

4. Reward, Measurement and Benchmarking Systems					
5. Collaboration with contractors in a way to achieve Sustainability					
6. Absence of a financial hurdle					
7. Government Support/ Legislation and Policies					
8. Capacity building, Education and Training of Stakeholders					
9. Societal Pressure (e.g. NGOs, green promotion groups, media e.t.c)					
10. Encouraging Competition					

Other  
opinions.....

.....

.....

.....

**THANKS FOR YOUR PARTICIPATION!!!**

APPENDIX B

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,  
KUMASI**

**MASTER OF SCIENCE IN PROCUREMENT MANAGEMENT**

**SEMI - STRUCTURED INTERVIEW QUESTIONS**

**RESEARCH TOPIC:** PROMOTING SUSTAINABLE PROCUREMENT WITHIN THE ROAD SECTOR IN GHANA: A CASE STUDY OF METROPOLITAN/MUNICIPAL AND DISTRICT ASSEMBLY ROAD UNITS IN ACCRA

**INTRODUCTION:**

The interview is intended to collect data that will help the researcher to examine the practice of Sustainable Procurement (SP) within the road sector in Ghana. The exercise is strictly for academic purpose. Any information provided will be treated confidential and no name will be ascribed to any response.

Researcher's Name: Jones Seyram Agbenyah

Supervised by: Professor Bernard K. Baiden

**PART ONE: GENERAL INFORMATION**

1. Age of interviewee?

.....

2. What is your education level?

.....

3. How long have you been in service/working period?

.....

4. What is your professional background?

.....

5. Position held at your entity?

.....

**PREMABLE: Sustainable Procurement** is a process whereby organizations meet their needs for goods, services, **works** and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organization, but also to **society** and the **economy** whilst minimizing damage to the **environment** ”

**PART TWO: NATURE OF SUSTAINABLE PUBLIC PROCUREMENT AT DUR**

6. Is there a policy in place to ensure implementation of sustainable procurement practice at your outfit?

.....

7. Does your department have and use a procurement manual?

.....

8. In defining the requirements of a contract, what are some of the important sustainability considerations?

.....

.....

9. How are contractors bound to practice of Sustainable Procurement in your outfit?

.....

.....

10. How are **environmental impacts** managed during project implementation in your outfit?

.....

.....

.....

11. How are **social impacts** managed during project implementation in your outfit?

.....

.....

12. How are **economic impacts** managed during project implementation in your outfit? .....