

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,  
KUMASI  
COLLEGE OF ARCHITECTURE AND PLANNING  
DEPARTMENT OF BUILDING TECHNOLOGY**

**MANAGEMENT OF CONTRACTUAL CLAIMS IN THE ROAD  
CONSTRUCTION INDUSTRY IN GHANA**

**BY**

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**MASTER OF SCIENCE  
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## DECLARATION

I declare that I have wholly undertaken the research reported upon here-in under supervision”.

..... Date.....

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I declare that I have supervised the student in undertaking the research reported herein and I confirm that the student has my permission to present it for assessment.

..... Date.....

**Mr. Peter Amoah**

(Supervisor)

I confirm that the student has duly effected all corrections suggested by the examiners in conformity of the Departments requirements.

..... Date.....

**Prof. Joshua Ayarkwa**

(Head of Department)

## **DEDICATION**

This research is dedication to Almighty God for his protection and my family (my wife Adu-Boateng Doris Asuako, my children Adu-Boateng Prince Agyenim, and Adu-Boateng Edwin Adubofour) for their unconditional love. Finally, to all lecturers who have passed their wisdom on to me and to others.

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## ABSTRACT

In the last three decades, Government of Ghana has injected huge resources to the construction and maintenance of rural roads infrastructure across the country with the aim of developing the rural economy and reduce poverty (World Bank, 1998; World Bank, 2001; The IDL Group, 2011). Despite its proven importance, it is not uncommon to see these road construction projects failing to achieve its objectives due to claims. Claim normally arise when one party believes that in some way, by action or inaction, the other party has breached contractual obligations or expectations, and requests a monetary and/or time compensation. Settlement of claims in many of our contract resulted to projects delay, additional cost, financial burden on the government, damage to relationships, stoppage of the work for years (abandonment), and making it difficult to hand over the infrastructure for the public use hence, waste of resources and leading to other project not been implemented. The main aim of this study is to develop strategies to enhance the management of contractual claims in the road construction industry in Ghana. Specific objectives are to identify from literature the sources, and, the requirements for successful claims in the road construction industry. The research carried out was exploratory and case studies were chosen as most appropriate research strategy to collect data on claims through reviewing project documentation and to get as much information on claims from road construction industry in Ghana. The case study project was selected to test validity of the claims factors identified from the related literature and applicable to general projects in Ghana. Methodology is of inductive and reference, generalized, concepts and theories identified from literature to present informative evidence on claims in relation to objectives. The results showed that, the sources of claims often lie buried within the project team. Claims could be avoided if contracting parties had a better relationship, clearer understanding of the contract clauses, disputes can be handled at a lower level hence, Alternative Dispute Resolution. The results of the survey also point to the fact that claims have adverse effect on economy. Major recommendation was that parties to the contract be aware that, their actions and inaction can become claims. It is therefore, the need to change in attitudes, behaviour and procedures in order to decrease claims in the road construction industry in Ghana. These can be achieved through developing capabilities of the contractors and contract managers to manage the new contract in current global shift and also projects must be properly appraised and managed effectively to minimise these claims.

**Key words:** Claims, Contractual, Contractual Claims and Road Construction Industry

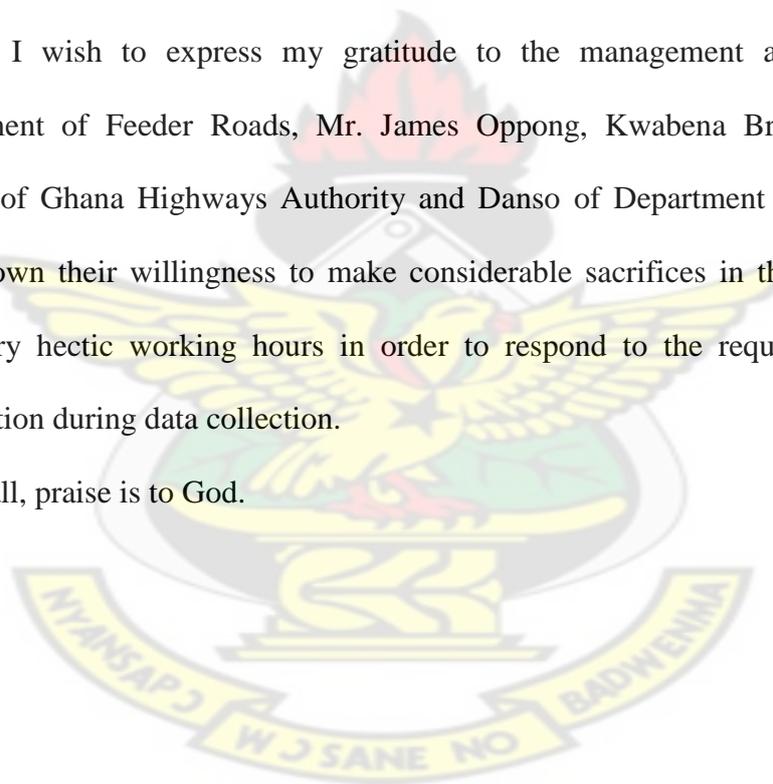
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## TABLE OF CONTENT

DECLARATION .....	ii
DEDICATION .....	iii
ABSTRACT .....	iv
ACKNOWLEDGEMENT .....	v
LIST OF TABLES .....	ix
LIST OF FIGURES .....	x
DEFINITION OF TERMS.....	xi
ABBREVIATIONS .....	xii
<b>CHAPTER ONE .....</b>	<b>1</b>
<b>INTRODUCTION.....</b>	<b>1</b>
1.1 Background to the study.....	1
1.2 Problem statement.....	2
1.3 Aim of the study.....	4
1.3.1 Objectives of the study.....	4
1.4 Justification .....	4
1.5 Limitation of the study .....	4
1.6 Study methodology .....	5
1.7 Organization of the research .....	5
<b>CHAPTER TWO .....</b>	<b>7</b>
<b>LITERATURE REVIEW.....</b>	<b>7</b>
2.1 Introduction.....	7
2.2 Overview of road construction industry in Ghana .....	7
2.3 Types of claims .....	11
2.3.1 Contractual claims.....	11
2.3.2 Common law claims.....	11
2.3.3 Quantum Meruit claims .....	12
2.3.4 Ex-Contractual claims .....	13
2.4 Common sources of contractual claims .....	13
2.5 Disruptions .....	17
2.6 The case studies.....	21
2.6.1 Projects undertaken from road construction sector in Ghana .....	22

2.6.2 Case between Government of Ghana v Construction Pioneer .....	24
2.6.3 Court case between Government of Ghana v Sarroch Grandulati/GELFI Joint Ventures .....	24
2.7 The requirement for successful claims .....	25
2.7.1 Conditions of contracts provisions for claims.....	25
2.7.2 FIDIC conditions of contract .....	25
2.7.3 PPA Condition of Contract .....	26
2.7.4 Essential requirement in claim preparation.....	26
2.7.5 Documentation and records.....	27
2.8 Claims management mechanism.....	29
2.8.1 A strategy to identifying claims .....	30
2.9 Conclusion .....	32
<b>CHAPTER THREE .....</b>	<b>33</b>
<b>RESEARCH METHODOLOGY .....</b>	<b>33</b>
3.1 Introduction.....	33
3.2 Research Method and Design.....	33
3.3 Data Collections .....	33
3.3.1 Stage 1 Literature review .....	34
3.3.2 Stage 2 Case Study.....	34
3.4 Analysis of Results.....	35
3.5 Summary .....	35
<b>CHAPTER FOUR.....</b>	<b>37</b>
<b>DISCUSSION OF FINDINGS .....</b>	<b>37</b>
4.1 Introduction .....	37
4.2 Source of claims as identified literature and case study .....	37
4.3 Requirement for successful claim .....	39
4.4 Claim management strategies .....	40
4.5 Summary .....	42
<b>CHAPTER FIVE.....</b>	<b>44</b>
<b>CONCLUSIONS AND RECOMMENDATIONS.....</b>	<b>44</b>
5.1 Introduction .....	44

5.2 Conclusion .....	44
5.3 Recommendations .....	44
REFERENCE.....	47
APPENDICES .....	57
APPENDIX A .....	57
APPENDIX B .....	58
APPENDIX C .....	59
APPENDIX D .....	60

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## LIST OF TABLES

Table 2.1: Sources of claims drawn from Literature.....	21
Table 2.2: Presentation of projects undertaken from various Departments as case studies in the road construction sector in Ghana.....	23

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## LIST OF FIGURES

Figure 3.1 Methodological flowcharts for the study .....	35
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## DEFINITION OF TERMS

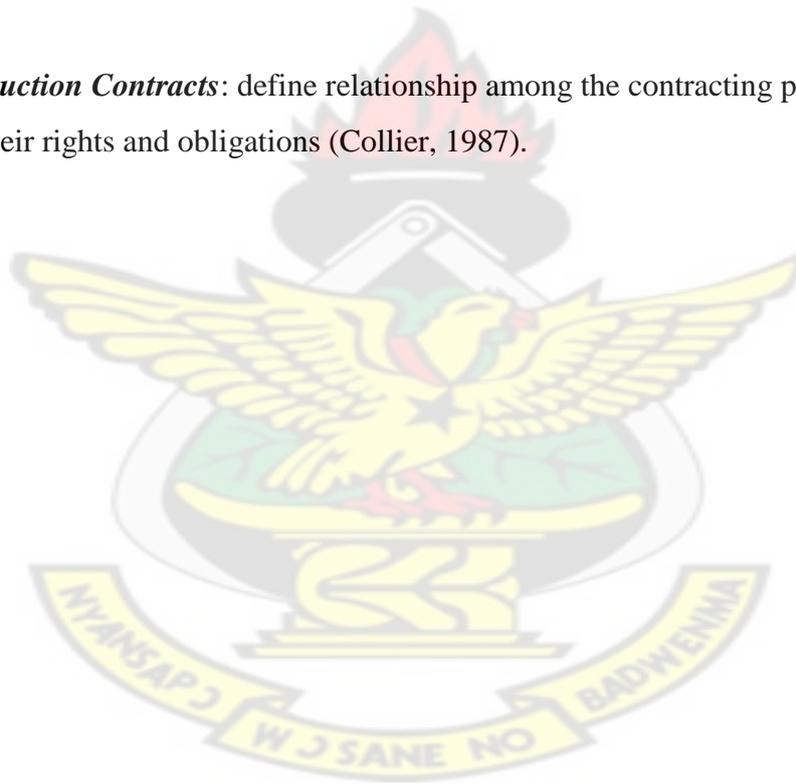
The following are definitions of key terms (Sekaran, 1996; Perry, 2003).

**Claims:** defined as a formal request for time or money, with legal and contractual implications (Bramble *et al.*, 1995).

**Contractual:** This refers to existence of contract relation between parties and their express or implied duties.

**Contractual Claims:** These are claims that are founded on specific clauses within the terms of contract.

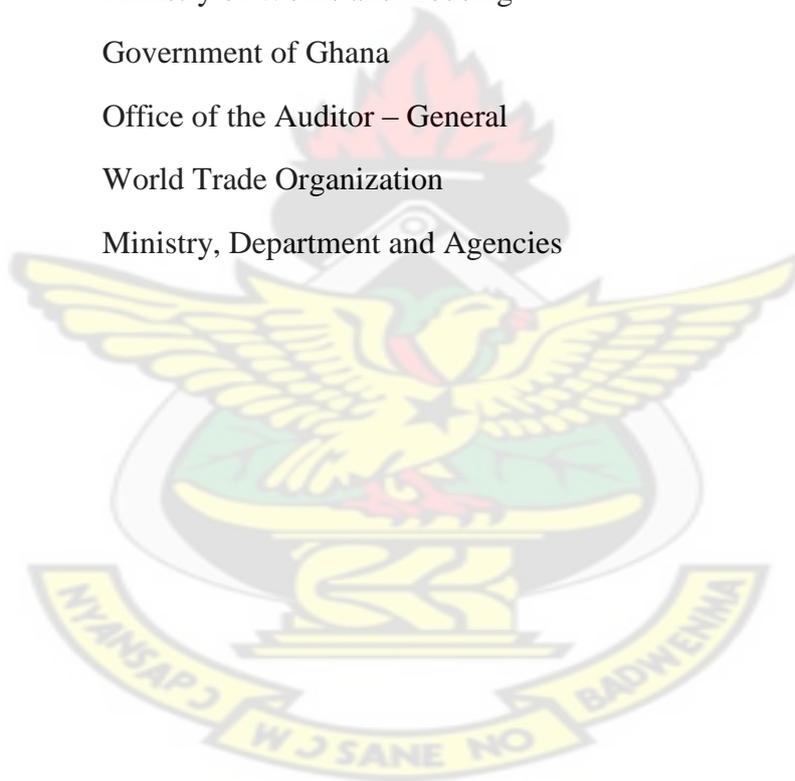
**Construction Contracts:** define relationship among the contracting parties together with their rights and obligations (Collier, 1987).



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## ABBREVIATIONS

FIDIC	Federation International Des Ingénieurs-Conseils
PPA	Public Procurement Authority
ICE	Institute of Civil Engineers
DFR	Department of Feeder Roads
GDP	Gross Domestic Product
MRH	Ministry of Roads and Highway
GHA	Ghana Highway Authority
DUR	Department of Urban Roads
MWH	Ministry of Works and Housing
GoG	Government of Ghana
OAG	Office of the Auditor – General
WTO	World Trade Organization
MDA	Ministry, Department and Agencies



## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background to the study

The construction industry covers a complex field of activities involving many operative skills and conditions which may vary considerably from one project to another in terms of operational skills and site conditions either foreseeable or unforeseeable, such as site and weather conditions, market conditions, project characteristics and availability of resources are some of the variables, each of which can have a significant effect on the operation of the contract and can lead to additional costs not provided for in the initial estimate.

In this context, claims have become an integral part of the building process (Levin, 1998) stated. It was this grounds that, standard condition of contracts made provision for these complexities and uncertainties by the provision of clauses which permits a party to claim for loss or expense resulting from specific contingences.

A typical example in this situation is the clause 52 of the Institute of Civil Engineers' condition of contract, 6<sup>th</sup> Edn (ICE, 1991).

The term claim broadly refers as a *right* given to the party who deserves a request for compensation for damages incurred by the other party (Simon, 1979).

Since then, definitions have evolved from various sources as a formal request for time or money, with legal and contractual implications (Bramble *et al.*, 1995; Semple *et al.*, 1994; Chappell *et al.*, 2005; Powell *et al.*, 1993; Gjertsen, 1990; Rubio, 1992; Zack, 2002).

It is argued that, a combination of factors of uncertainty, contractual problems and opportunistic behaviour can lead to disputes (Mitropoulos et al., 2001). Bramble *et al.*, (1995) reported that design defects, third party actions/inaction's, and unknown conditions, represented the principal causes of disputes in a set of highway construction projects. He further argued that disputes are settled through negotiation at the project level. If a dispute cannot be settled at this level, it can become a claim that is either settled by a level of management higher than the project, or by an administrative panel or court. The relationship between disputes and claims has been discussed by a number of authors and, as previously mentioned, there is legal precedent and ample evidence from standard forms of contract that, in a contractual sense, a dispute only comes into being after a claim has been made and been rejected (Ndekugri et al., 2006, and Reid et al., 2007) stated.

For the purposes of this study, claim normally arises when one part believes that in some way by action or inaction, the other part has breached contractual obligations or expectations, and requests a monetary and/or time compensation. This occurs, not only because it is easier for the contractor to evaluate and separate the damages caused by each particular event, but also to link these events to the legal theory or to the breach of the contractual clause that allows recovering inducted losses.

## **1.2 Problem statement**

The construction industry has traditionally been mired in adversarial relationships between owners and contractors (Fenn et al., 1997) opted. While, the contractor hoping to develop a satisfied client, must in the long run achieve financial goals that are advanced by expending the minimum resources required to meet a minimum scope of work (Howard et al., 1997).

However, construction contracts are complex and in many cases not uncommon for disagreement between the owner, designer, and the contractor to arise as the project in operations which leads to claims and dispute.

Undeniably, claims in the road construction industry have long been considered a problem, if for any other reason than they cause damage to relationships, delay projects, and cost additional money (Gebken and Gibson, 2006). In addition to that, many times it is expressed that the legal problems in construction industry are most complicated problems and sometimes these problems result not only in stoppage of the work for years together, but also are cause of financial burden on the government and it becomes difficult to hand over the infrastructure for the public use for years together (Ramkaran, 2010). It has been estimated that such disputes cost the UK construction industry alone £8billion annually (Pickavance, 2003; Pickavance, 2005). Claims resolution continues to pose a great challenge for project employers and contractors at all levels of the supply chain (Pickavance, 2005)

Many of this was the reasons, construction contracts have been the major focus of academic journals (Jergeas et al., 1994; Semple *et al.*, 1994), practitioner journals (Frano, 1996), textbooks (Adrian 1988; Rubin *et al.*, 1999), and even foreign government initiatives to decrease the amount of disputes, claims, and litigation on projects (Office of Government Commerce, 2002). Studies also reveal that claims management still performed in an ad hoc manner (Vidogah et al., 1998). Accepting these bear facts, there is an obvious need for in depth study to address these claims in the road construction industry in Ghana.

The situation underpins and justified the aim and objectives, to stimulate stakeholders to search for effective and efficient way to enhance the management contractual claims in the road construction industry in Ghana. This research is a step toward fulfilling this need.

### **1.3 Aim of the study**

The main aim of this study is to develop strategies to enhance the management of contractual claims in the road construction industry in Ghana.

#### **1.3.1 Objectives of the study**

The specific objectives are to:

- Identify from literature the sources/origins of claims in the road construction industry in Ghana ;
- Identify from literature the requirements for successful claims in the road construction industry; and
- Identify from literature the existing claims management mechanism in the road construction industry.

### **1.4 Justification**

This study will help stakeholders in the road construction industry in terms of:

- policy ; and
- practice (Perry, 2003).

### **1.5 Limitation of the study**

Due to limited resources such as time and finance, this study was limited to contractual claims under FIDIC and PPA conditions of contracts.

This research will also target the road construction sector since the road sector received a substantial proportion of budgetary allocation for road construction and maintenance in recent years (Lamprey and Elle, 2000; Adu, 2009; Foster and Pushak, 2011).

### **1.6 Study methodology**

The research will be exploratory and case studies will be chosen as most appropriate research strategy to collect data on claims through reviewing project documentation and to get as much information on claims from road construction industry in Ghana.

Methodology is of inductive and reference, generalized, concepts and theories identified from literature to present informative evidence on claims. The case study project will be selected to test validity of the claims factors identified from the related literature and applicable to project in general in Ghana. The findings from the literature and case will be discussed in relation to the objectives of the study. Research conclusions will be contextual and recommendations to improve the field.

### **1.7 Organization of the research**

The study is arranged into five chapters. Chapter one provides background introduction of the study and explains the problem at hand; the aims and objectives with the justification of the study and organisation of the research. Chapter two presents the comprehensive literature review on claims. The intent is to ascertain relevant theoretical perspectives on claims. Then the emphasis in this Chapter is to make down the cases in different dimensions to identify where claims occur and what type of claims they are, and confirming the appropriateness. Collection of

evidence for the case study further validates these claims in the road construction industry in Ghana.

Research methodology is laid in chapter three which underlines the research method used to gather data towards the attainment of the study objectives. The fourth chapter focus on discussion of key issues emanated from the review literature and case study with reference to the aims and objectives and chapter five conclusion and recommendations drawn from the study.

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## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter presents a general background of the study which is drawn largely on published data in relation to objectives to present informative evidence on claims. This stage concerned reading and appraising both theoretical and empirical existing knowledge relating to the phenomenon under investigation (Berker and Bryman, 2004). This chapter also gives overview of road construction industry in Ghana.

#### **2.2 Overview of road construction industry in Ghana**

The Ministry of Roads and Highways (MRH) has three road agencies with different assigned responsibilities: Ghana Highway Authority (GHA) (in charge of trunk roads); Department of Urban Roads (DUR) (managed the roads network in the Cities and Urban centres); and Department of Feeder Roads (DFR) (responsible for roads network in rural Ghana) (Mwale, 1997; Heggie, 1999; Quagraine, 2007). The agencies are subject to the budgetary, managerial and economic policies of the central government (Lamptey and Elle 2000; Quagraine, 2007).

The DFR was established in 1981 under the Ministry of Works and Housing (MWH) and was shifted to Ministry of Roads and Highways in 1982 (Mwale, 1997; Heggie, 1999; Lamptey and Elle 2000). The agency is in charge of rural road policies and strategic development to organize and manage projects funded by Government of Ghana (GoG) and donor partners. The Government in 1997 reformed the road sector leading to the Ministry's new role and function of regulating, managing and monitoring, instead of its former role as an executing agent (World Bank, 2001). This paved the way for about ninety per cent (90%) of road infrastructural projects to

be executed by private contractors (Mwale, 1997; World Bank, 1998). The road construction sector received a substantial proportion of budgetary allocation for road construction and maintenance in recent years (Lamprey and Elle, 2000; Adu, 2009; Foster and Pushak, 2011).

According to the Office of the Auditor-General, OAG (2010), the DFR exists to “ensure the provision of safe all weather accessible feeder roads at optimum cost to facilitate the movement of people, goods and services and to promote socio-economic development, in particular agriculture.” The agency is highly-ranked as one of the best Public Sector Road Agencies (PSRA) in charge of rural roads in the whole Africa region — having structured technically with a high professional quality output from its management across the country (World Bank, 1998). It operates through its management headquarters, regional and Area/District offices implementing and supervising construction and maintenance of roads projects (OAG, 2010). The workforce consists of teams of professionals mostly of Civil Engineers, Land and Quantity Surveyors.

There are over 700,000km (seven hundred thousand kilometres) rural roads in Sub-Saharan Africa (Riverson *et al.*, 1991). Ghana was the first West Sub-Saharan African country to become independent in 1957 (Anvuur *et al.*, 2006) with an area of 238,533sq.km (Ghana Statistical Service, 2012); it currently has a total road network of 64,323km out of which 42,010km are rural roads network (The IDLGroup, 2011). Since the last three decades, Government of Ghana has injected huge resources to the construction and maintenance of rural roads infrastructure across the country with the aim of developing the rural economy and reduced poverty (World Bank, 1998; World Bank, 2001; The IDL Group, 2011). Ghanaian roads accounted for 95%

(ninety five percent) of freight and 97% (ninety seven percent) of passenger traffic (Quagraine, 2007).

According to Foster and Pushak (2011, p. 10), Ghana has a strong and quality road network, with 74% - 75% of both unpaved and paved “*network in good or fair conditions*”.

Nevertheless, out of the country’s sizeable rural population of 49.10% (Ghana Statistical Service, 2012), only 24% lives within 2km (two kilometres) of an “*all-season*” road — lower than the 60% found in middle-income countries in the Africa continent (Gwilliam *et al.*, 2008; Foster and Pushak, 2011, p. 11). Globally, the majority of poor population reside in the rural areas where infrastructure facilities especially roads are extensively poor or underdeveloped (Saburi, 2012). Lombard and Coetzer (2007) argue that, access to good rural roads reduce high transportation cost and poverty thereby raising the standard of living of the rural population.

Rural roads according to van de Walle (2008, p. 2) refers to “*small local roads or even paths and tracks in rural areas that have low or no motorized traffic volumes*” which “*link rural communities and farmlands to areas of socio-economic importance*” (OAG, 2010, p.1).

Construction of rural roads are expensive investments (van de Walle, 2008) and are funded through the Road Fund (GOG projects), loans, credit or grants from the World Bank, donors, international financial institutions and development partners.

An average of 1.5% of country’s GDP is spent on roads, out of this 30% is allocate to fund rural road projects (Foster and Pushak, 2011). Rural roads play a significant role in the socio-economic growth and development of Ghana (Lombard and

Coetzer, 2006), and thus it is imperative for deliberate long term investment in the road subsector to adequately strengthen its human resources to deliver sustainable roads network. The huge sums of money and other capital costs expended on rural roads and the link to the socio-economic growth and development of Ghana demands the maximum management capability. This reveals the important linkage between improvement of construction contract and delivery of economic growth.

However, road construction contract is made up with claims (judgment debt) due to inefficiencies of parties to the contract, regardless of the effort by the governments of Ghana and development partners like World Bank to improve performance. The absence of solid technical expertise with the requisite capability and competence have been cited by several publications from institutions including the World Bank as the cause of the weaknesses and underperformance of Ghana's road sector (Peprah 2001; World Bank, 2001; World Bank, 2003; World Bank, 2008; Ameyaw *et al.*, 2012). In addition to that, bidding considerations in developing countries makes it clear that governments in developing countries have a direct influence on construction in both the public and private sector through their behaviour, policies and legislations (Jaselskis and Talukhaba, 1998) stated. Studies also reveal that claims management still performed in an ad hoc manner in construction contract (Vidogah *et al.*, (1998). It is against this backdrop that, practitioners, researchers and society at large have, therefore, called for a change in attitudes, behaviour and procedures in order to increase the chances for construction projects to be successful and result in improved end products (Love *et al.*, 2000, Dubois and Gadde, 2002).

It is in this regard that, the aim of the study is to develop strategies to enhance the management of contractual claims in the road construction industry in Ghana.

## 2.3 Types of claims

There are four main bases on which a claim may be made (Powell et al., 1989; Chappell et al., 2005) these include:

- under express contract conditions-*Contractual* claims;
- for breach of contract at common law- *Common Law* claims;
- on quasi-contractual or restitutionary basis- *Quantum Meruit* claims; and
- on ‘out of kindness’ basis-*Ex-Contractual* claims or *ex gratia* awards or claims.

### 2.3.1 Contractual claims

These are claims that arise out of the *express provisions* of the particular contract for direct loss and/or damage under certain clauses of the (FIDIC or PPA) standard forms or conditions of contract. They make use of the machinery in the contract to process the claim and produce result.

### 2.3.2 Common law claims

Common law claims are therefore claims for damages for breach of contract under common law and /or legally enforceable claims for breach of some other aspect of the law e.g. in tort, repudiation, *implied terms* and other related matters. Thus, Common law claims are therefore claims for damages for breach of implied terms in the contract and must be proved, and follow strict legal requirements in order for the injured party to successfully recover them. Common law sometimes and misleadingly called ‘ex-contractual’ or extra-contractual’ claims. These terms should not be confused with that Latin term “ex contractu”, which is sometimes found in legal textbooks to refer to claims arising from the contract, Chappell et al (2005) stressed.

According to Chappell et al., (2005) there are four (4) situations which could give rise to common law claims:

- Misinformation to contractor about the condition of the site;
- Negligent misrepresentation breach of warranty, thus failure to give true picture of the contract or site (stated SSM7 to prepared Bills) through application misrepresentation (ACT, 1967); and
- Failure to give possession of site is a breach of major term of the contract; contractor may repudiate the contract and sue for damages for breach profit & loss.

In summary, contractual claims are those that arise under *specific clauses* in the contract while common law claims is based on *implied terms* in the contract and must be proved, and follow strict legal requirements in order for the injured party to successfully recover them.

### **2.3.3 Quantum Meruit claims**

A quantum meruit claims (as much as he has earned) provides a remedy where no price has been agreed. There are four situations which could give rise to quantum meruit claims. These according to Chapel et al., (2005), are the four (4) situations:

- Where work has been carried out under a contract, but no price has been agreed;
- Where work has been carried out under a contract believed to be valid but actually void;
- Where there is an agreement to pay a reasonable sum; and
- Where work is carried out in response to a request by a party, but without a contract.

### **2.3.4 Ex-Contractual claims**

These claims are not based on the clauses within the terms of contracts, although the basis of the claims may be circumstances that have arisen out of the project and have resulted in loss or expense to the contractor (Ex-gratia award). These claims are at the mercy of the client. It is not binding on the client to pay hence the name ex-gratia award.

### **2.4 Common sources of contractual claims**

Claim is the contractual and legal basis for payment (entitlement), and quantifies the resulting damages. The inference being that a claim relates to matters of compensation, remedy or relief or a failure to fulfil contractual obligations. Adrian (1988) and Richter and Mitchell (1982) both cited by Gebken give similar definitions. The causes of claims have been researched in worldwide by researches Adrian (1993); Al-Momani (2000); Diekmann and Nelson (1985); Jergeas *et al.*, (1994); Kumaraswamy and Yogeswaran (1998); Levin (1998); McMullan (2003); Semple *et al.*, (1994). In research by both Diekmann and Nelson (1985) and Semple *et al.*, (1994), the major source of construction conflict, and hence claims, was a combination of design errors and scope increases, all of which were outside the control of the contractor. In addition to that, design defects, third party actions/inaction, and unknown conditions, represented the principal causes of disputes in a set of highway construction projects (Bramble *et al.*, 1995) reported. While there is some evidence the amount of conflict on construction projects can be reduced (Groton 1997; Mitropoulos and Howell 2001), there are many who believe that conflict in this industry is inevitable (Cheung and Suen 2002; Stipanowich 1996). As a result, design related documentation produced often contains errors and omissions and often leads to contractual claims and disputes (Diekmann and Nelson,

1985). Similarly, Semple et al., (1994) concluded that the most common causes are increases in scopes, weather conditions, restricted access, and acceleration, in addition to the above causes. Others have also stated that, the most crucial sources of claims are unclear or inadequate documentation, late instructions, variations initiated by the employer/engineer; measurement related issues, inclement weather, and time extension assessment, on 91 projects (Kumaraswamy and Yogeswaran, 1998). Although Ioannou and Leu (1993) and Kangari (1994) suggest that the number of claims and disputes is related to opportunistic bidding, we do not suggest that most claims happen because of opportunistic bidding. Other researchers have also identified a large number of causes for construction claims including owner-caused delays, deficiencies in design, owner-initiated changes, performing work more difficult than described in the contract, and external factors such as weather, material delays, and strikes, among others (Adrian 1988; Fenn et al., 1997; Kumaraswamy 1997; Pena-Mora et al., 2003; Semple et al., 1994. Halligan *et al.*, 1987) analysed 600 projects and concluded that underlying causes of changes and claims reported by contractors were due to contract documents, site conditions and scheduling problems. Scott and Harris (2004) explained further that, the purpose of contracts for construction are governed by contract conditions that had developed over time and aimed to share the construction risks in a fair manner. Each party to the contract is also aware of their rights and responsibilities where the contractor is also aware of the opportunities to claim additional time or cost in particular to prescribed conditions. Adrian (1993) indicated relatively low profitability of the construction industry and changing of product delivery. It is further argued that, the increased complexity and scale of the building process is one of the major reasons for increasing the number of claims (Adrian 1993 and Levin, 1998). Jergas and

Hartman (1994) made their contribution by adding other factors like; inadequate bid information, faulty or late owner-supplied equipment or material, inferior quality of drawings or specifications, and stop-and-go operations. To add to above, the sources of claims often lie buried within the project team Taylor (2000) argued. It is therefore important that each team member has the awareness appropriate to his role that some actions and inaction can become claims.

It was further argued that, the majority of contractors' claims are contractual in nature and often result from the project's delays and/or disruption (Diekmann and Nelson, 1985; Semple *et al.*, 1994; Kumaraswamy, 1997), which are caused by matters that are the employer's responsibility, the contractor's own responsibility or by neither party (e.g. an act of god). The successful settlement of typical claims usually requires that the claimants go through five main processes (Lee, 1983; Williams *et al.*, 2003; Klanac and Nelson, 2004):

- establishment of contractual/legal basis for the claim (Liability);
- establishment of causal link between each delay and/or disruption event and the resulting extended duration and/or additional cost (Causation);
- evaluation of effect and quantify the amount of time and/or cost of the impacts (Quantum);
- compilation and submission of claim; and
- negotiation of settlement.

Different types of claims raised by the contractor under 'Time Delay and Extension' are as follows (Thomas Wong, 2008):

- Variation and escalation due to extended stay
- Extension of Time for delays
- Demobilization charges for carrying out delayed work

- Compensation for idle labour plant, etc. due to delays
- Loss of overheads and profits
- Compensation for extra expenditure incurred on overheads, establishment and other supervisory expenditure due to extended stay
- Amount withheld towards liquidated damages
- Mental agony, torture, stress, defaming

The most common types of compensable delays which the contractor can seek recoveries are as follows:

- Owner interference
- Lack of access
- Delayed notice to proceed
- Delayed inspections
- Delayed approvals
- Delayed variations
- Defective specification in drawing or ambiguities or discrepancies of the contract.

However, Ali (2011) said the following types of suspension of work are not compensable:

- Otherwise provided for in the contract
- Necessary by reason of contract or Default
- Necessary by reason of climatic conditions except exceptional adverse conditions
- Necessary for the proper performance or safety of the works except if attributed to any or default of the consultant or the employer

Meanwhile, the contractor's fault, so no extension of time, and indeed the client can claim damages. As indicated by Williams, (2001); projects have tended to become more time constrained, and the ability to deliver the project quickly became an increasingly important element in winning a bid in recent decades, further, there is an increasing emphasis on tight contracts, using prime contractor ship to pass time-risk on to the contractor, frequently with heavy liquidated damages (LDs) for lateness. Unlike the budget problems, to determine and calculate the direct effects of delay is more problematical and intricate since it does not have straight monetary terms. If any delay occurs on completion date; it will cause financial penalties, loss of reputation, loss of profits that would have accrued through use of project (like in BOT projects). Delays should be investigated thoroughly and carefully as the results may vary widely. Some may not affect the whole project, that is, their impact is solely the cost of resources working at a reduced efficiency.

These activities are considered to have float time within the programme, and their influence on the project is limited. Whereas, some delays do impact the project completion and accordingly their financial implications are much greater. It is crucial to be able to prove that a delay affects the overall project completion date if any considerable reimbursement is to be requested for delay.

## **2.5 Disruptions**

Disruptions can arise even where the works are completed within the contract period or less and these may be due to the following reason:

- Lack of instruction, drawings, details or level.
- Compliance with Architect's instruction in writing, confirmation, objection.

- Opening up for inspection or testing of material or goods (before or already incorporated in the works) or executed work.
- Discrepancies between drawings and bills (or other contract documentation or instructions issued by the architect.
- Written notice specifying the discrepancy-then architect to resolve it.
- Employer carrying out work outside the contract.
- Persons employed or otherwise engaged by employers who are not to be considered as sub-contractors. Where such work is covered in the contract bills the contractor must permit its execution. If not so covered then the employer requires the consent of the contractor which shall not be withheld unreasonably.
- Similar conditions where the employer has agreed to supply materials or goods and has failed to do so.
- Postponement of any work to be executed. Lead to extension and/ or loss and expense.
- Failure of employer to give ingress to or egress from the site. Applies also to adjoining land.
- Access to be in possession and control of employer.
- Written notice relating to information in the contact document or agreed between architect and contractor.
- Date of possession in appendix from which contractor to proceed “regularly and diligently”.
- Delays by or associated with nominated sub-contractors and suppliers.
  - Delay in nomination procedure.

- Nominated sub-contractor in default(suspends the work ,fails to proceed in accordance with the agreed programme, fails to remove defective work, assigns the contract without permission, or comply with fair wages clause) or goes bankrupt then re-nomination is necessary.
- Where in default an instruction is require from the architect to determine the sub-contract after notice of default.
- Where insolvency arises the receiver is to be given an opportunity to carry out the sub-contract works.
- Architect to re-nominate within a reasonable time.
- Where a breach is discovered after the sub-contractor has ostensibly completed his work the contractor is not entitled to an extension-does not constitute “delay on the part of “the nominated sub-contractor.

The starting point is the contractor’s programme against which specific aspects can be assessed in terms of disruption. Particular dates can be attributed to most items, but not to any claim for general interference. The assessment of that disruptive element tends to be subjective and can only be in global terms when set against norms for the work involved.

In summary Seeley (1998) has shown how contractual claim may be originated by varied factors including:

1. Discrepancies between drawing, specifications, schedules and bills of quantities;
2. Late and hurried preparation of detailed information;
3. Multiplicity of engineers instructions;
4. Constant revision to drawings;

5. Changes of mind on the part of the employer; and
6. Poor co-ordination between two (2) or more parties involved in the project.

Conclusion, the common sources of contractual claim, actions of the employer, actions of nominated sub-contractors ,adverse weather conditions , awaiting drawing and instructions, delay during the execution of works, delay in given instructions , delay in payment ,delay in the commencement of works, difficulties with customs ,difficulties with nominated suppliers, disruptions and extended overheads, Error in setting out arising from incorrect data from the consultant, fossils, antiquities , high number of variation orders, methods of construction, physical conditions, possession of and access to the site, strikes, substitution of material, suspension of works, tests and Under-utilization of resource.



**Table 2.1: Sources of claims drawn from Literature**

Sources of claims	References
Variations initiated by the owner/consultant (additive/deductive)	Semple <i>et al.</i> (1994); Jergeas and Hartman (1994); Diekmann and nelson (1985); Kumaraswamy and Yogeswaran (1998); Al-Momani (2000); McMullan (2003)
Stakeholders involved in the project	Al-Momani (2000); McMullan (2003)
Changed conditions	Al-Momani (2000); McMullan (2003)
Delays in payments to contractors and resulting cash problems during construction	Al-Momani (2000)
The contract documents have errors, defects, omissions, and poor management	Jergeas and Hartman (1994); Kumaraswamy and Yogeswaran (1998)
Unbalanced bidding , underestimation and incompetence of contractors	Jergeas and Hartman (1994)
Inferior quality of design, drawings and/or specifications	Jergeas <i>et al.</i> (1994); Diekmann and nelson (1985); Jergeas and Hartman (1994); Al-Momani (2000); McMullan (2003)
Insufficient time for bid preparation and Inadequate investigation before bidding	Jergeas and Hartman (1994)
Increased of complexity and scale of building process	Adrian (1993) and Levin (1998)
Weather	Semple <i>et al.</i> (1994)
Relatively low profitability of the construction industry	Adrian (1993)
Delays of approval of shop drawings, instructions and decision making	Kumaraswamy and Yogeswaran (1998)
Acceleration and stop-and-go operations Restricted access	Semple <i>et al.</i> (1994); Jergeas and Hartman (1994)

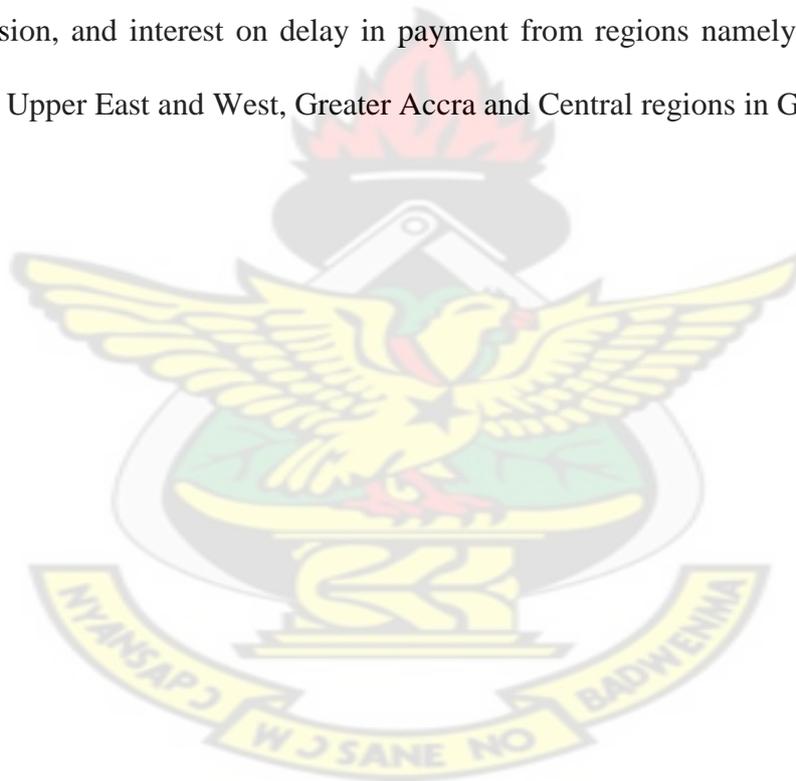
## 2.6 The case studies

The research has identified sources of claim from literature and the case study further validates these sources of claims in generic ‘‘real world ‘‘ context in Ghana.

Collection of evidence for the case study was achieved by reviewing project documentation with senior management from stakeholders in the road construction industry. The case studies selected for detailed analysis were the following.

### **2.6.1 Projects undertaken from road construction sector in Ghana**

The case study projects were Government of Ghana (GOG) funded road projects undertaken by the Department of Feeder Roads, Ghana Highway Authority and Urban Roads which claims was requested due to default of contractual clauses such as variation, design error, change in design, extension of time, fluctuation, suspension, and interest on delay in payment from regions namely Ashanti, Brong Ahafo, Upper East and West, Greater Accra and Central regions in Ghana.



**Table 2.2 Presentation of projects undertaken from various Departments as case studies in the road construction sector in Ghana**

<b>Projects name</b>	<b>Original estimated cost(Gh¢)</b>	<b>Final cost(Gh¢)</b>	<b>Extra cost</b>	<b>Extra cost (%)</b>	<b>Roads sectors</b>
Surfacing of Ada Town roads (2.0km)	453,602.20 (2009)	648,145.30 (2011)	194,543.10	43	Department of Feeder Roads – <b>Greater Accra</b>
Widening of La - Teshie beach road	2,998,922.73 (2007)	6,096,013.29 (2011)	3,097,090.56	104	Department of Urban Roads Head Office – <b>Greater Accra</b>
Rehabilitation of Bolgatanga-Bawku (10.7km)	300,300.95 (2009)	440,020.70 (2010)	139,719.75	47	Ghana Highways Authority <b>Upper East</b>
Surfacing of Sekyeredumase town Roads( 4.0km)	990,276.23 (2008)	1,126,928.90 (2009)	136,652.67	14	Department of Feeder Roads – <b>Ashanti</b>
Surfacing of Atasemanso –Chief Palace Roads(1.6km)	1,252,710.84 (2008)	1,341,642.52 (2009)	88,931.68	8	Department of Feeder Roads – <b>Ashanti</b>
Surfacing of Nkawie Town Roads (3.7km)	612,157.57 (2007)	779,671.04 (2008)	167,513.47	28	Department of Feeder Roads – <b>Ashanti</b>
Surfacing of Sombo-DaffiamaPh I (10.0km)	1,479,179.75 (2007)	2,220,143.47 (2008)	740,963.72	50	Department of Feeder Roads – <b>Upper West</b>
Surfacing of Sankore-Abuom – Nankate(4.0km)	585,483.77 (2006)	657,801.24 (2008)	72,317.47	<b>13</b>	Department of Feeder Roads – <b>Brong Ahafo</b>
Surfacing of Sikaben –Obawale-Tsotsonya (7.15km)	75,306.04 (2006)	99,979.06 (2006)	24,673.02	<b>33</b>	Department of Feeder Roads – <b>Eastern</b>
Surfacing of Akotsi-Kraman-Kwayarko (10km)	1,264,393.04 (2007)	1,749,163.37 (2008)	484,770.33	39	Department of Feeder Roads – <b>Central</b>
<b>TOTAL</b>	10,012,333.12	15,159,508.89	5,147,175.77	52	

**Sources:** GHA, DFR and DUR

### **2.6.2 Case between Government of Ghana v Construction Pioneer**

(Www. Modern Ghana.com and joy online .com)

In **1996** the Government of Ghana signed a contract with Construction Pioneer, dwelling on three contracts, Biriwa-Takoradi Road project (BTRP), the Assin –Praso –Yamoransa Roads and the Akim Oda area road contracts. This Project involved the construction of an asphaltic concrete overlay of the aforementioned roads. There was some problem along the contract agreement due to error in bill of quantities and construction pioneer refused to submit a performance security and insurance requirements before commencing works as specified in the conditions of contract clause 13(3). It was on these grounds government at that time decided to abrogate the contract because the company did not fulfil its contractual obligation such as the presentation of its performance bonds to the Ghana Highways Authority as stipulated.

### **2.6.3 Court case between Government of Ghana v Sarroch Grandulati/GELFI**

**Joint Ventures;** (www.public accounts commission)

In 2004, the Government awarded a contract to Sarroch Grandulati/GELFI Joint Ventures, for the construction of the ASAFO Market UTC Roundabout interchange in Kumasi. The consultant was Messer HAG Consult/MDC Joint Ventures. There was some design changes along the consultancy agreement was no longer extended and the government at that time decided to form a team with the Ghana Highways Authority and Department of Urban Roads to take over supervision from consultants in 2006.

Many of the sustained claims were due to negligence or lack of attention to detail on the part of the Government and contractors. By taking extra time and ensuring all

requirements within the contract are inherently clear with no ambiguity, future litigation in this area should decrease considerably, and also familiarizing themselves with the contract law and Regulation and meticulously digesting the parameters of the contract, contractors will be better prepared for conducting government business and have a better understanding of the task at hand.

## **2.7 The requirement for successful claims**

### **2.7.1 Conditions of contracts provisions for claims**

Construction is a high risk business hence to reduce the risk elements, most condition of contract (standard forms) provide procedures for claims dispute settlement. Among these standard forms of conditions are *JCT 80*, *FIDIC*, *PPA*, and *PINK FORM*.

### **2.7.2 FIDIC conditions of contract**

Although there are various clause under which a contractor can make claims, clause 53 sub clause 1-5 set out the procedure from which a contractor must follow to make claims.

However the following are the various clauses under FIDIC 4<sup>th</sup> EDITION which provide the contractor with opportunities for increasing the contract price and certain clauses which entitle the employer to receive payment from the contractor. Appendix A and B are some of the clauses which the contractors can depend on for claims.

In selecting the clause to use, Seeley (1998) said, the contractor should refer to past judgments and appropriate works of reference.

### **2.7.3 PPA Condition of Contract**

Unlike the FIDIC which have a clause on procedure for claims, the PPA have no clause on claim procedure but clause 25 – procedure for disputes will be followed since claims are sources of dispute. The procedure for claims is specified in clause 25 of the PPA.

Appendix C and D are some of the clauses which the contractors can depend on for claims

### **2.7.4 Essential requirement in claim preparation**

One of the main criteria in establishing the validity of claims is good accurate record, Ali (2011) said. According to Seeley (1998), probably the most important step is to inform the consultant that claim situation is arising.

Following the above, Seeley (1998) advised that the claim cloud conveniently be broken down into the following logical sequence:

- Contract particulars – details of the sites ( as contained the preliminaries and general items) and details of the contract (as contained in the form of agreement and appendices to the form of tender)
- Claim particulars –a summary of the bases or heads of claims, stating all facts and details, together with full particulars of the specific contract is based.
- Evaluation of the claims –a summary of the contractor’s loss and / or expenses
- Appendices – a section that collect collates `all the back-up information described in (2) and (3)

### **2.7.5 Documentation and records**

Documentation and records keeping is very vital in contract administration. Masses of record materials are produced even on relatively small construction projects, many of them as crucial as they are informal. Project records may be diverse as site investigation reports, feasibility studies, specifications, drawings, tender submissions, estimating and pricing details, minutes of meetings, formal instructions, test data, payment applications and certificates, weather records etc. To all of that is added the great chains of correspondence between the participants, management report in each of the companies and the usual periphery of any business activity. “It is haphazardly in these various forms of contemporary record that are to be found the clues as to the causes of disputed matters” Ali (2011).

The primary objective of the contractor at the onset of a construction contract should be to ensure that the appropriate and necessary procedures, records documentation and correspondence are established and maintained throughout the entirety of the contract so as to ultimately facilitate successful completion of the contract and to avoid delay and disruption and other claims ending in dispute; Taylor (2000) said.

According to Ali (2011), “an equally important objective is to ensure that high standards of record keeping and documentation are maintained throughout the period of the contract to record the effects of delays, variations and other events”

Many delay and disruption disputes could be avoided if the parties properly monitored and recorded the above mentioned information. Ali (2011) strengthened this point by saying that, “experts who advise on disputes often find that there is lack of records resulting in uncertainty as to when a delay occurred, who caused the delay and the effects of that delay”. Good record keeping can remove this uncertainty.

The reality is that a small proportion of time, money and effort expended by the contractor in putting in place the aforementioned procedures and record keeping at the outset of a contract could ultimately save him a significant amount of time, effort and money at the end of the contract in having to recover, in arbitration or court proceedings, loss and expense incurred due to delay and disruption to the contract.

Finally, minute inaccuracies can be seized upon to cast doubt on the entire claim (Kululanga et al., 2001). As cited by Kangari (1995), this enables the arbitrator to evaluate the merits of each case presented and to determine which party, if any, deserves an award. He also mentioned that, when a dispute arises during the project, it is far more likely to be settled in an expedient manner if document based information has been maintained. Kangari (1995) evaluated the subject as below:

- Document-Based and Document-Supported Evidence
- Construction Schedule
- Video and Photographs
- Effectiveness of Testimony in Support of Document-Based Evidence
- Firsthand Witness versus Written, Dated Documentation
- Expert Testimony in Support of Document-Based Evidence
- Project Documentation and Daily Information Management
- Recommendations for Project-Management Information-Control System
- Differences in Documentation for Potential Disputes
- Document-Based Information and Inadequate Documentation
- Presenting Documentary Evidence
- Effect of Poor Documentation on Case Outcomes
- Problematic Document-Related Issues

## 2.8 Claims management mechanism

In construction, conflicts among builders and owners are very common, particularly in bidding or claiming situation due to the high level of uncertainty conditions in which construction projects operates (Tucker et al., 1988; Laufer *et al.*, 1992) and the inability of designers to provide for all possible eventualities, and the study of mathematical models of conflict and cooperation between intelligent rational decision-makers'' (Myerson, 1991).

It against this background that , the ideas of Engineering and Construction Contract developed in the UK by the Institute of Civil Engineers (ICE, 1995) is also contended to be one of the most innovative contract forms aimed at ensuring dispute-free projects (Latham, 1994). It also deals with claims situation in a more comprehensive and effective manner.

In spite of these, road construction contract is made up with claims due to the increased globalization, changing workforce patterns and technology has led the transition to the knowledge. Abo Rizk et al., (2002), developed a simulation program to resolve construction disputes and to bring quick solutions to an interruptive event. A hypertext model used to conflict and claim analysis is also developed (Powell et al., 1993). This model may provide project participants a systematic way of analysing claims from the perspectives of both owners and builders as to answer the critical questions of why, how, how much, and what to do.

First, there is the view that, in order to avoid disputes from claims, contracting parties should begin projects with suitable contract languages and with appropriate Alternative Dispute Resolution (ADR) mechanism (Levitt *et al.*, 1980; Diekmann et al., 1995). Under this, particular areas of attention suggested include the adoption of

equitable risk allocation and better understanding and interpretation of contractual provisions (Perry, 1986; Thomas *et al.*, 1994).

Second, there is the view that to minimise claims, more time and money should be allocated to project's design phase in order to reduce the number of changes to the contract (Zack, 1997). This recommendation is based on the fact that majority of claims are caused by differing site conditions, variations, inadequate and inaccurate design information (Ibbs *et al.*, 1987; Kumaraswamy, 1997).

Finally, the sources of claims often lie buried within the project team (Taylor, 2000). It is therefore important that each team member has the awareness appropriate to his role that some actions and inaction can become claims. Understanding of the causes of claims is vital to avoiding or reducing claims in the road construction industry.

### **2.8.1 A strategy to identifying claims**

According to Taylor (2000) the practice is to devise a strategy which can:

- Encourage openness and the sharing of problems.
- Decide where responsibility lies in the team for handling and reporting problems.
- Ensure that, as the problem becomes more serious, it is reported higher up the hierarchy line, if necessary all the way to the managing principal.
- Identify the point when the problem becomes, or is likely to become a claim, and establish who formally decides.
- Ensure that when the problem becomes a claim, it reaches the right level of management at the earliest opportunity.
- Monitor progress of the claim, keeping informed those who need to be informed.

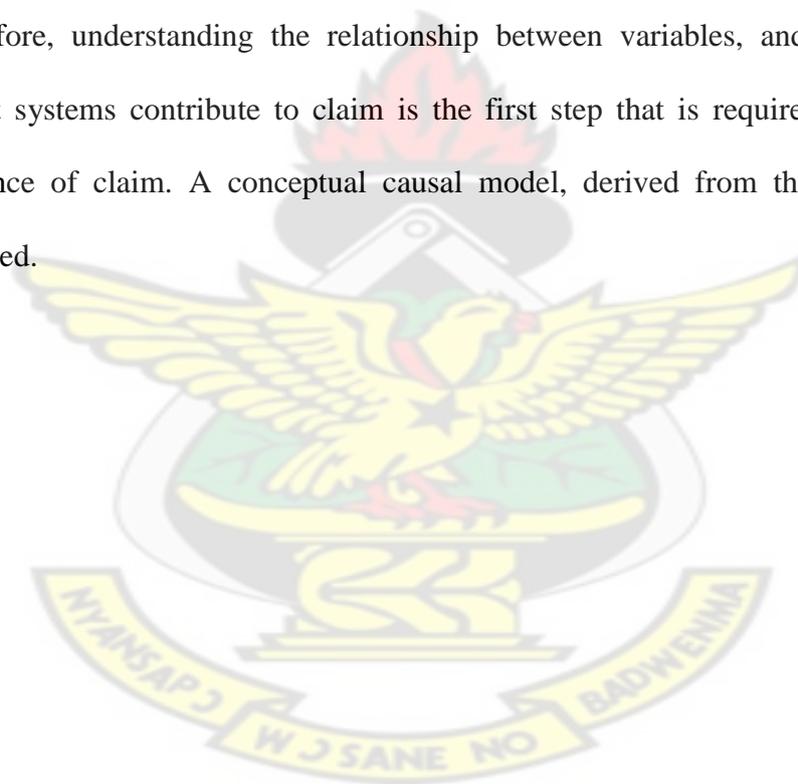
- Make financial provision for handling the claim, e.g. extra team , time, principals' time
- Establish the means for safeguarding confidentiality. This may involve withholding sensitive information from some members of the practice, removing sensitive information from project files to a more secure place, ensuring that sensitive information does not leave the office, or briefing team members about the dangers of disclosure outside the team, particularly to the media. Special meetings or bulletins to the team members personally involved may be advisable, to keep them informed and involved.
- Enable the specific claim to be handled – who is to manage the claim, who may say what to whom. Safeguard security of information, letters, drawings, sketches, state of the art literature to be relied on, memoranda, records of telephone calls and daybooks. Establish separate files and classify information for easy reference. Archive carefully so that material is still available after years of dormant activity.
- Appoint a member of the practice independent of the claims chain adviser. This is similar to design review, i.e. detached peer comment. Often, progress of a claim can be seen more clearly by someone who has no personal involvement.
- Establish if there is someone in the practice with the appropriate skills who is better able to negotiate settlement than the person with whom responsibility would normally lie for handling the claim.
- Establish the machinery for closing down a claim and the reasons, e.g. downgrading to a ‘problem’, settling, and formal withdrawal by the claimant.

- Ensure that all principals and appropriate seniors annually confirm formally that to the best of their knowledge there have been no notifiable problems, claims or potential claims that they have not already notified.

## **2.9 Conclusion**

The causes of claims in construction are numerous and simply trying to identify a specific cause is not possible given the complexity associated with construction projects. In addition, changes in scope and/or delay or disruption could lead to loss or expense.

Therefore, understanding the relationship between variables, and factors within project systems contribute to claim is the first step that is required to reduce the incidence of claim. A conceptual causal model, derived from the literature was proposed.



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter presents the theoretical background of the research methodology used to collect and analyse the data that support this research.

#### **3.2 Research Method and Design**

The choice of methodology must largely be based on the kind of information needed, the potential informants and the circumstance under which the information is being requested (Robson, 2002). Methodology is of inductive and reference, generalized, concepts and theories identified from literature in relation to objectives to present informative evidence on claims.

The research carried out was exploratory and case studies were chosen as most appropriate research strategy to collected data on claims through reviewing project documentation and to get as much information on claims from road construction industry in Ghana. The case study project was selected to test validity of the claims factors identified from the related literature and applicable to road construction projects in Ghana.

#### **3.3 Data Collections**

The various research designs and methodologies were reviewed which enable me to adopt the appropriated data collection method for area under study. However, this research chooses two stages as most appropriate research strategies to collected data:

- *Literature Review; and*
- *Case Study.*

### **3.3.1 Stage 1 Literature review**

Literature offers the research framework and indicates the data to be collected as well as the appropriate approaches and analysis techniques (Fellow and Liu, 2008).

The literature was identified from concepts, theories and ideas relevant information from several sources such as reports, journals, articles, textbooks, conference proceedings and other useful information from the internet in relation to the objectives of the study to present informative evidence on claims. This stage concerned reading and appraising both theoretical and empirical existing knowledge relating to the phenomenon under investigation (Berker and Bryman, 2004).

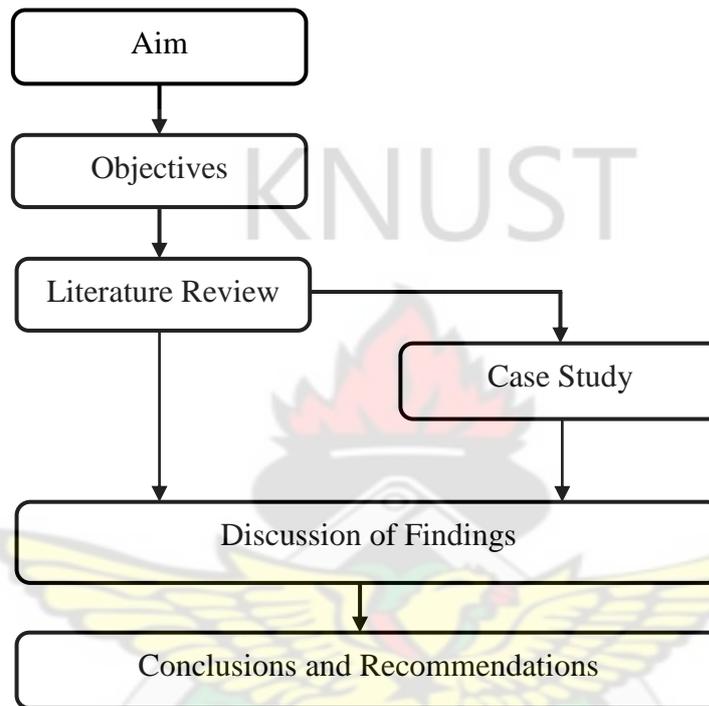
### **3.3.2 Stage 2 Case Study**

The case study method is an appropriate application where the case in question represents an extreme or unique case or that the situation has not previously been the subject of detailed scientific investigation (Yin, 1984) stated.

The research has identified sources of claim from literature and the case study project was selected to test validity of the claims factors identified from the related literature and applicable to road construction projects in Ghana. Collection of evidence for the case study was achieved by reviewing projects documentation to get as much information on claims in the road construction industry. The case studies were Government of Ghana road projects undertaken by the Department of Feeder Roads, Ghana Highway Authority and Urban Roads on claims to test validity of the claims factors identified from the related literature in Ghana (Appendix A).

### 3.4 Analysis of Results

The findings from the literature and case study are discussed in relation to the objectives of the study. Research conclusions were contextual and recommendations drawn from the study to improve the field.



**Figure 3.1 METHODOLOGICAL FLOWCHART FOR THE STUDY**

### 3.5 Summary

Methodology is of inductive and reference, generalized, concepts and theories identified from literature in relation to objectives to present informative evidence on claims.

The research carried out was exploratory and case studies were chosen as most appropriate research strategy to collected data on claims through reviewing project documentation and to get as much information on claims from road construction industry in Ghana. Case study project was selected to test validity of the claims factors identified from the related literature and applicable to road construction projects in Ghana. The findings from the literature are discussed in relation to the

objectives of the study. Research conclusions were contextual and recommendations drawn from the study to improve the field.

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## CHAPTER FOUR

### DISCUSSION OF FINDINGS

#### 4.1 Introduction

Detailed discussions of findings in relation to the objectives of the study are presented in this chapter.

#### 4.2 Source of claims as identified literature and case study

In the last years, Ghana road construction stakeholders have widely experienced an increase in contractual claims and the same has been reported internationally (Semple *et al.*, 1994, Thompson *et al.*, 2000), according to the experience of the authors, as well as the literature review (Bramble, *et al.*, 1995, Diekmann *et al.*, 1995). The findings revealed that the increased complexity and scale of the building process is one of the major reasons for increasing the number of claims (Adrian 1993 and Levin 1998) argued. The sources of claims often lie buried within the project team Taylor (2000) also argued.

Many of these claims were due to the contractors and contracting officer's failure to read and/or fully understand the clauses in his/her own contract rather than rely on institutional knowledge or experience. This is especially true for new contracting officers. Taking extra time and ensuring all contract clauses are understood will help reduce future dispute on claims. Contract interpretation claims occur when two separate parties understand a requirement differently. When litigation under these goes to court, the courts apply a set process by which they must determine proper interpretation.

To add to that, evidence from the case study also justifies the increase of claims in road construction projects due to negligence or lack of attention to detail on the part

of the Government, contracting officers and contractors. By taking extra time and ensuring all requirements within the contract are inherently clear with no ambiguity, future litigation in this area should decrease considerably, and also familiarizing themselves with the contract law and Regulation and meticulously digesting the parameters of the contract, contractors will be better prepared for conducting government business and have a better understanding of the task at hand.

There are six (6) main reasons which could give rise to claims in the road construction contract these include:

- political reasons- change of government, optimism bias;
- contractual reasons-terminations for default, defective specifications, contract interpretation and complexity of managing new type of contracts;
- legal reasons-new law on environment protection, health and safety ;
- organizational/departmental reasons- inadequate quality control during the design phase due to complex and bureaucratic administrative procedures.
- environmental reason- adverse weather and change in soil condition;
- economic reasons – recession and inflation; and

Termination for default is generally the exercise of the Government's contractual right to completely or partially terminate a contract because of the contractor's unexcused present or prospective, actual or anticipated failure to perform in accordance with the contract's terms, specifications, or delivery schedule or failure to perform its contractual obligations under Government contracts. This can be identified from the conditions the clause that permits the Government to terminate a contract for default in fixed price construction. Paragraph (a) states: If the Contractor

refuses or fails to execute the work or any separable part, with the diligence that will insure its completion within the time specified in this contract including any extension, or fails to complete the work within this time, the Government may, by written notice to the Contractor, terminate the right to proceed with the work (or the separable part of the work) that has been delayed.

Grounds for termination include failure to perform on time, failure to make progress so as to endanger performance, and anticipatory repudiation. Termination for convenience allows the Government to terminate a contractor for any reason when it is in the Government's best interest. The contractor is entitled to compensation for any work done prior to the termination, together with earned profit. The termination for convenience clause is the contractor's best defense against a wrongful default termination. The decision to terminate for default can be a discretionary act or by regulatory guidance.

#### **4.3 Requirement for successful claim**

One of the main criteria in establishing the validity of claims is good accurate record, Ali (2011) said. According to Seeley (1998), probably the most important step is to inform the consultant that claim situation is arising.

Following the above, Seeley (1998) advised that the claim could conveniently be broken down into the following logical sequence:

- Contract particulars – details of the sites ( as contained the preliminaries and general items) and details of the contract (as contained in the form of agreement and appendices to the form of tender)
- Claim particulars –a summary of the bases or heads of claims, stating all facts and details, together with full particulars of the specific contract are based.

- Evaluation of the claims –a summary of the contractor’s loss and / or expenses
- Appendices – a section that collect collates all the back-up information described in (2) and (3)

In addition, Ali (2011) said, the following are the other documents very crucial to the success of claims

- Master programme identifying the critical path and indicating how the contractor had envisaged the sequence and timing of the various activities based on the tender information.
- Progress schedule of activities against the master programme.
- Estimate of weekly resources and anticipated expenditure to comply with the master programme.
- Records of actual resource and expenditure based on progress
- Records of plant standing or uneconomically employed

#### **4.4 Claim management strategies**

The construction industry covers a complex field of activities involving many operative skills and conditions which may vary considerably from one project to another in terms of operational skills and site conditions either foreseeable or unforeseeable can lead to additional costs not provided for in the initial estimate. Furthermore, the amount of money involved in a road construction project is usually so large that a small discrepancy in the contract interpretation will cause significant impact on the operation of the contract and can lead to additional costs not provided for in the initial estimate.

Notwithstanding that, understanding the relationship between variables, and factors within project systems contribute to claim is the first step that is required to reduce the incidence of claim.

Taylor (2000) argued that, the sources of claims often lie buried within the project team. It is therefore important that each team member has the awareness appropriate to his role that some actions and inaction can become claims. Understanding of the causes of claims is vital to avoiding or reducing claims in the construction industry

The findings further revealed that attitude of project team toward claims is one of the key obstacle in the management of claims, which corresponds with the evidence of (Vidogah et., al, (1998) and Adu (2009) who also suggest that lack of adequate funding impede training of project team on contract of the Ghanaian road sector.

The most important tools for accessing the level of delays, disruption and accelerations on a construction contract includes Critical Path Analysis (CPA), Program Evaluation and Review Technique (PERT), Bar Charts (Gantt Chart), and CPA Produced Bar Charts.

It is very imperative for the contractor to be able to show that he correctly estimated the content of the project (in order for him to apply the tools effectively to measure the delays, disruptions and acceleration) with particular reference to labour resource, the constraints imposed by the site itself, proposed working methods, and the time required for the works.

Finally, contracting officers need to foster clear and open communication between themselves and the contractor. Many of the cases could have been resolved had the two parties communicated effectively. Another area is to ensure the Government's requirements are not excessive. The contracting officer must ensure the requirements are clear and concise and follow standard industry practices. Any deviations from

this can lead to litigation and result in a loss of time and money – for both parties. Lastly, contracting officers need to be intimately familiar with the procurement law and contract law. By doing this they will not make procedural errors and will be well informed. Having properly trained acquisition specialist is vital to preventing future claims.

#### **4.5 Summary**

In summary, the final objective of the research was to generate adequate means for improvement, in light of the information obtained from the previous three objectives and of the solutions published in the literature research. Strategies for better claims management practices were developed, and these strategies included the following:

- Addressing the prevailing notion in the industry to fear and get offended by written notifications. The step to achieving this is that a professional body would form stricter contract conditions with regards to documentation and general conditions form be made and enforced by that body;
- the inclusion of a joint-ownership-of-float clause in the contract so that owner caused delays, which have been documented to be the second most dominant cause of claims in this research, may be improved;
- addressing the issue of site contract awareness, the site team must practice more contract awareness and this can be achieved through periodical orientations performed by the contracting or legal department of the company, which must be attended by the site personnel;
- proper claims quantification procedures, such as the presentation of claim cost breakdown formulae, prior to the commencement of the works, and the monitoring of the effect of change orders during project execution by using the scheduling techniques suggested by Veenendal (1998); and

- Finally, documentation procedures for claims should be dramatically improved.

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## CHAPTER FIVE

### CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter presents the conclusion and recommendations of the research. The study discuss way to enhance claim management in the road construction industry in Ghana and the key objectives was to identify from literature the sources of claims, the requirement for successful claims in the construction industry in Ghana.

#### 5.2 Conclusion

Construction of roads in the country will improve socio-economic development of the nation. Any improvement in the development of the strategies to manage these claims in the road construction will have a significant influence on the overall socio-economic environment of Ghana and enhances effective contract practice.

However, little attention is given to the empowerment and training of the contractors and contract managers who implement this contract. This has resulted in misapplication and underperformance within most road construction industry leading to the loss of huge sums of taxpayers' money.

Finally, Claims could be avoided if the contractor had a better relationship, clearer understanding of the contract clauses, disputes can be handled at a lower level hence, Alternative Dispute Resolution.

#### 5.3 Recommendations

Based on the results of the study, progressive deliberate actions must be developed to enhance claim management to safeguard taxpayer's money.

There is need to change in attitudes, behaviour and procedures in order to decrease claims in the road construction industry in Ghana. These can achieved through developing capabilities of the contractors and contract managers to manage the new contract in current global shift of the contract practice. There is also need to increase their competency in these areas, Contract management, Relationship management, Project evaluation, Risk management and Strategic planning. This would fill the capability gaps to manage the changing contract practice in order to decrease claims in road construction projects and to achieve maximum benefit for Ghana. The central government should increase the needed financial resources to support the PPA and the Road Ministry to develop capabilities of the workforce to complement that provided by the partner institutions.

In summary, it is therefore important that parties to the contract:

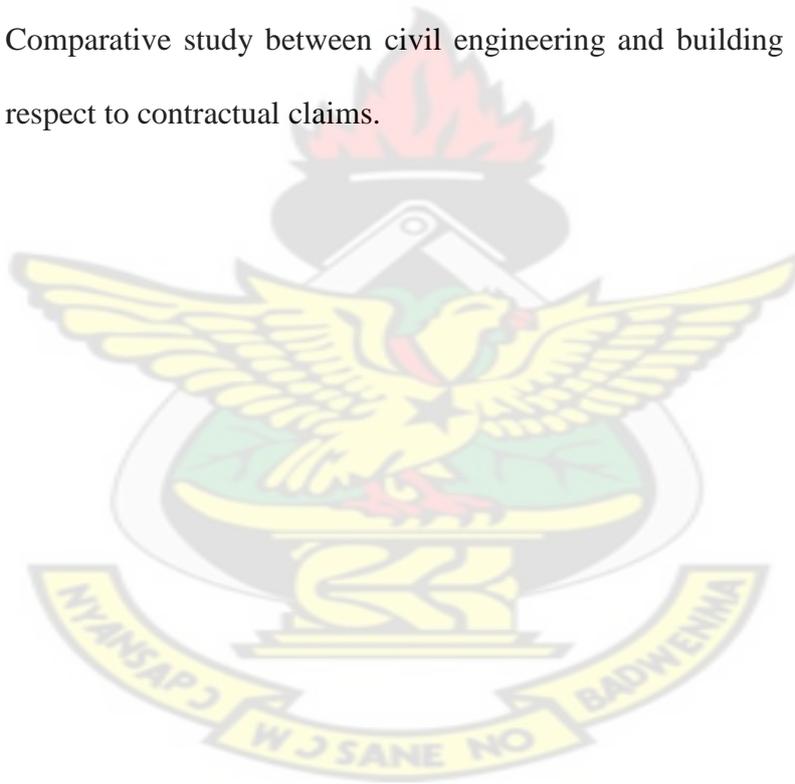
- beware that, their actions and inaction can become claims;
- understand the requirements of the contract terms;
- regular communication between the parties involved;
- contractors must keep records for easy access to information for claims;  
and
- periodic training and meeting of project team on construction contracts.
- contractors must make conscious efforts to generate (and use) the following data or information whiles on a project in addition to the once they have already being generating if they want to be successful in pursuance of contractual claims:
  - Master programmes (using CPA and PERT);
  - Work and method study;
  - Borehole logs;

- Cash flow forecast;
- Labour allocation sheets;
- Receipt of drawing schedules;
- Records of actual resources and expenditure; and
- Confirmations of verbal instructions (CVI's).

### **Further research**

In order to keep the interest on contractual claims high the following area is recommended for further research work:

- Comparative study between civil engineering and building contractors with respect to contractual claims.



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## APPENDICES

### APPENDIX A

**Table 2.3 Clause of contractors extra payments/claims**

<i>Clause Number</i>	<i>Clause title</i>	<i>Adjustment</i>
5.2	Ambiguities (depending on circumstance)	T+C
6.3 and 6.4	Engineering drawing delay	T+C
12.2	Physical conditions	T+C
17.1	Setting out (Error based on incorrect data)	C+P
18.1	Exploratory boreholes	C+P
20.3	Repairs and Employer's risks	C+P
27.1	Fossils, antiquities, structures	T+C
31.2	Opportunities to other contractors	C+P
36.5	Tests	T+C
39.2	Uncovered work	C
40.2	Suspension	T+C
42.2	Employer's failure to give possession	T+C
49.3	Cost of remedying defects	C+P
50.1	Search for defects	C
52.1	Variations	C+P
52.1 and 52.2	Extra payments for variation order	C+P
52.3	15% reduction or increase	±C
65.3	Damage to work by special risks	C+P
65.5	Increased costs arising from special risks	C
65.8	Termination of contract	C and C+P
69	Defaults by Employer	T+C
70.1	Increase or decrease of cost	By formula
70.2	Changes in legislation	±C
71	Currency and rates of exchange	C+P

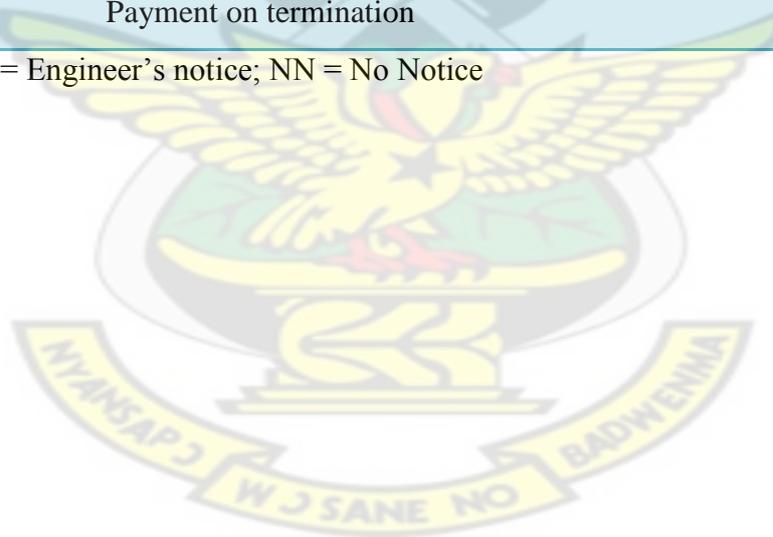
\*\*\* T = Time adjustment; C = Cost adjustment; P = Profit adjustment

## APPENDIX B

**Table 2.4 Clause for employer's recovery of money form contractor**

<b>Clause number</b>	<b>Clause title</b>	<b>Notice</b>
<b>25.3</b>	Contractor's failure on insurance	NN
<b>30.3 and 30.4</b>	Damage to highways and bridges	CONSULT
<b>37.4</b>	Rejection of materials and plant	EN
<b>39.2</b>	Contractor's failure to obey engineer (improper work and materials)	EN
<b>46.1</b>	Rate of progress	EN
<b>47.1</b>	Failure to complete on time(LAD)	EN
<b>49.4</b>	Failure of contractor to do repairs	EN
<b>59.5</b>	Failure to prove payments to sub-contractors	EN
<b>63.3</b>	Default by the contractor	EN
<b>64.1</b>	Urgent remedial works	EN
<b>65.8</b>	Payment on termination	EN

\*\*\* EN = Engineer's notice; NN = No Notice



## APPENDIX C

**Table 2.5 Clause of contractors extra payments**

<b>Clause number</b>	<b>Clause title</b>	<b>Adjustments</b>
<b>11</b>	Employer's risks	C +P
<b>20</b>	Discoveries	T +C
<b>21</b>	Possession of the site	T +C
<b>22</b>	Access to the site	T +C
<b>23</b>	Instructions	C +P
<b>28</b>	Extension of the intended completion date	T +C
<b>29</b>	Acceleration	C +P
<b>30</b>	Delays ordered by the project manager	T +C
<b>33</b>	Identifying defects	C +P
<b>34</b>	Test	T +C
<b>35</b>	Corrections of defects	C +P
<b>38</b>	Changes in the activity schedule	T and C
<b>39</b>	Variations	C +P
<b>43.1</b>	Payments( interest on delay payments)	C
<b>44</b>	Compensation events	C + P
<b>45</b>	Tax	±C
<b>47</b>	Price adjustments	Formula
<b>50</b>	Bonus	C+P
<b>54</b>	Cost of repairs	C +P
<b>59</b>	Termination	C +P

\*\*\* C =Cost Adjustment, P = Profit Adjustment, T = Time Adjustment

Also the following clauses entitle the client to receive payment from the contractor.

## APPENDIX D

**Table 2.6 Clause for employer's recovery of money form contractor**

Clause Number	Clause title	Notice
13(3)	Insurance	NN
36	Uncorrected defects	PMN
49	Liquidated Damages	PMN
59	Payment Upon Termination	PMN

\*\*\* PMN = Project Manager's notice; NN = No Notice

