

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,

KUMASI

DEPARTMENT OF BUILDING TECHNOLOGY

EXPLORING THE CHALLENGES OF PUBLIC PRIVATE PARTNERSHIP ON

INFRASTRUCTURE PROJECTS IN GHANA

A CASE STUDY AT TAKORADI HARBOUR EXPANSION PROJECT

BY

**KUMORDZIE, WINFRED (BSC. CONSTRUCTION TECHNOLOGY AND
MANAGEMENT)**

**A THESIS SUBMITTED TO THE DEPARTMENT OF CONSTRUCTION
TECHNOLOGY AND MANAGEMENT, KWAME NKRUMAH UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

**COLLEGE OF ART AND BUILT ENVIRONMENT
IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE
OF**

MASTER OF SCIENCE

NOVEMBER, 2018

DECLARATION

I hereby declare that this submission is my work towards the MSc Project Management and that to the best of my knowledge. It contains no materials previously published by another person non-materials which has been accepted for the award of any other degree

WINFRED KUMORDZIE (PG 8914917)

Student

Signature

Date

Certified by

Mr. Ayirebi Dansonh

Supervisor

Signature

Date

Certified by

Prof. Bernard Baiden

Head of Department

Signature

Date

DEDICATION

This work is dedicated to my late parents, Mr. Gakli Wodewole Anagbo-Kumordzie and Afiyo Masamaka who unfortunately could not leave to the fruits of the seeds they diligently sowed. May the soul rest in peace. It is very important to mentioned that the same work also dedicated to my wife and Togbe Kpodo Adzi stool house for their wonderful contribution made towards my academic carrier. May Almighty God bless them protect them.

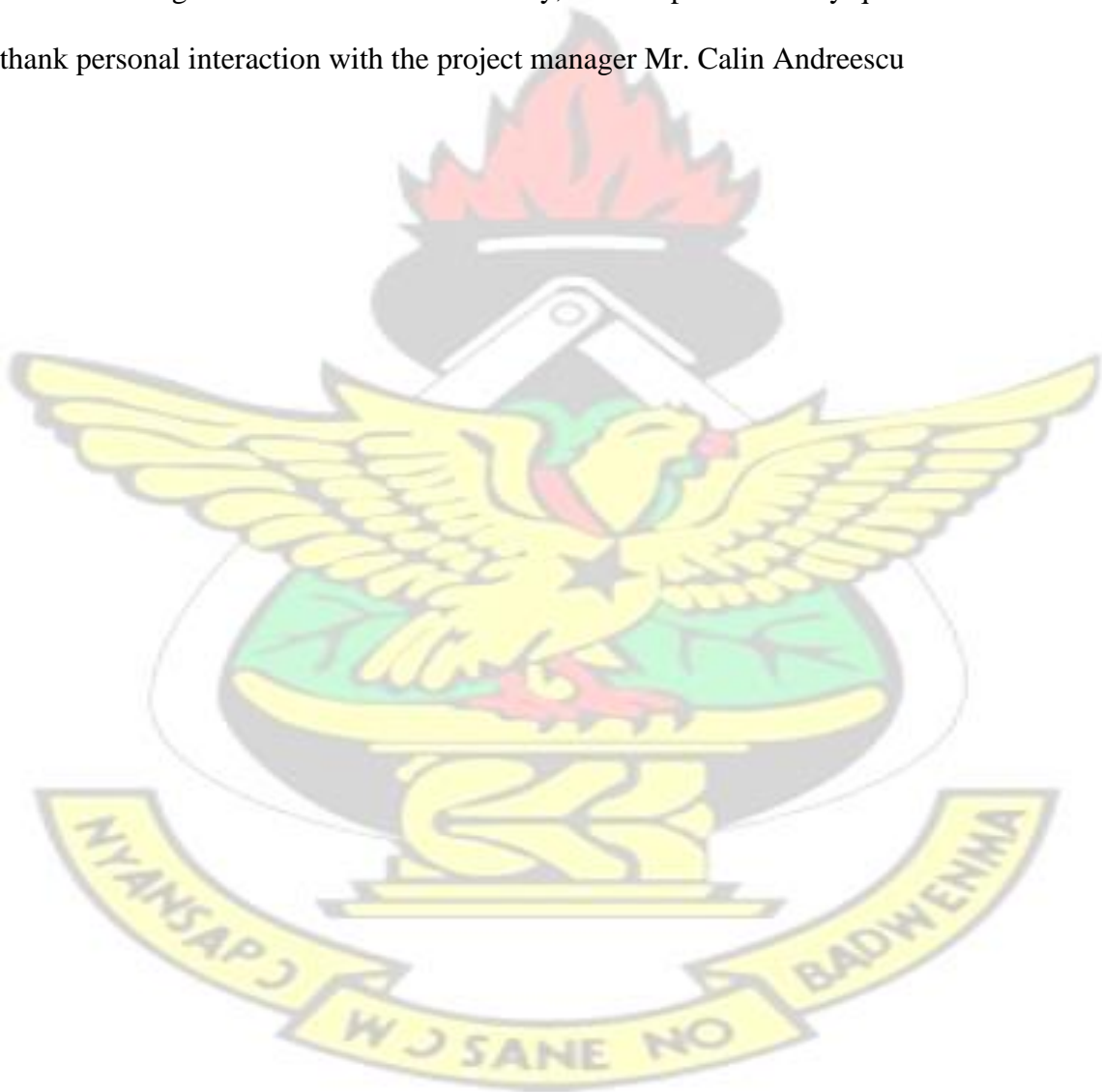


ACKNOWLEDGEMENT

It is very important to acknowledge people who have been at help to me in the completion of this wonderful project work.

Am much grateful to my supervisor Mr. Ayiribi Dansoh and Andrew Kwakye for their guidance.

My sincere thanks go to all staff of Ghana port and harbor authority (Takorade port), Jan Du Nu of Belgium and Selhorn of Germany, who responded to my questionnaire. I also thank personal interaction with the project manager Mr. Calin Andreescu



ABSTRACT

The objectives of this present study is to identify the challenges in implementing public private partnership by examining the factors that hinder the successful adoption of public private partnership in Ghana, a particular case of Takoradi harbor expansion projected. The study investigated into the implementation challenges of the public private partnership, policy in Ghana using Takoradi port expansion project as a case study. Also to identify the potential of Public Private Partnership (PPP) opportunities to Western Region Sekond-Takoradi Environment.

Infact public private partnership projects need to be completed and executed under a stable legal framework. Two of the major areas are the state aid controls and the public procurement regulators. Developing countries in particular, will need to attract lenders and sponsors by providing financial comfort, often through the use of government support [state guarantee, subsidies, tax relief, availability payment] and legislation needs to be reviewed prior to initiating of public private partnership project in order to avoid legal problems during the contract period. The study made use of questionnaire as a means of gathering information for the whole study. A total number of thirty-nine (39) questionnaires and only thirty (30) were retrieved for analysis. All information were analysed with the use of the statistical package for social science (SPSS) version 21. The findings revealed that project management challenges of public private partnership at the Takoradi port expansion project were low.

TABLE OF CONTENT

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT.....	v
TABLE OF CONTENT	vi
LIST OF TABLES.....	ix
LIST OF FIGURES.....	x
LIST OF ACROMYS	xi
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background to the Study	1
1.2 Problem Statement.....	3
1.3 Research Questions.....	4
1.4 Research Aim and Objectives.....	4
1.5 Brief Overview of Research Methods	5
1.6 Significance of Study.....	5
1.7 Scope of Study.....	6
1.8 Limitations of Study	6
1.9 Organization of the Study.....	6
CHAPTER TWO	8
LITERATURE REVIEW	8
2.0 Introduction.....	8
2.1 Contextual Review.....	8
2.2 Public Private Partnership Objectives and Equilibrium Framework	11
2.3 Definitions of Public Private Partnership (PPP).....	12
2.3.1 Types of PPP.....	13
2.4 PPP Contractual Framework for Ghana	14
2.5 Advantages for Adopting PPP in Ghana	15
2.6 Promotion of quick delivery of public infrastructure	16
2.7 Reduction of financial burden of government	16

2.7.1 Allows sharing of risk.....	17
2.8 Project management practices in PPP.....	17
2.9 Project management Implementation challenges of PPP	20
2.10 Lack of appropriate skills and experience	21
2.11 Incomplete transfer and misallocation of risks	21
2.12 Use of highly unlawful proposals.....	22
2.13 Theoretical Literature Review	23
2.13.1 Normative Rationales for PPP.....	23
2.13.2 Positive Rationales for PPP	24
2.14 Empirical Literature Review.....	24
2.15 Nature of Partnership	25
2.16 Legal framework of the project	26
CHAPTER THREE.....	28
RESEARCH METHODOLOGY	28
3.1 Introduction.....	28
3.2 Research Design	28
3.3 Sampling Procedures	28
3.3.1 Target Population.....	28
3.3.2 Study Area	28
3.3.3 Study Population.....	29
3.3.4 Sampling Technique	29
3.3.5 Sample Size	30
3.3.6 Sampling Frame.....	30
3.4 Data Collection Instruments	30
3.4.1 Sources of Data.....	31
3.5 Theoretical Model for the Study	31
3.6 Validity and Reliability of Research Instrument	32
3.7 Chapter Summary	32

CHAPTER FOUR	33
DATA ANALYSIS AND DISCUSSION OF FINDINGS.....	33
4.0 Introduction.....	33
4.1 Overview of the Study Area	33
4.2 Project location	35
4.3 Respondents' Profile.....	36
4.4 Descriptive Results	38
4.4.1 Conceptual Understanding of Project Management	38
4.4.2 Project Management Implementation Challenges of PPP	40
4.4.3 Outcome of Public Private Partnership Project	41
4.5 Discussions	42
4.5.1 Conceptual Understanding of Project Management,	43
4.5.2 Project Management Implementation Challenges	43
4.5.3 Outcomes of Public Private Partnership Project.....	44
4.6 Chapter Summary	44
CHAPTER FIVE	45
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS	45
5.1 Introduction.....	45
5.2 Summary of Findings	45
5.3 Conclusion	46
5.4 Recommendations.....	46
5.5 Future Research Recommendations	47
REFERENCES	48
APPENDIX.....	52
QUESTIONNAIRE	52

LIST OF TABLES

Table 4.3: Breakdown of respondent profile	37
Table 4.4a: Extent of Conceptual Understanding of Project Management	39
Table 4.4b Extent of Project Management Implementation Challenges of PPP	41
Table 4.4c: Extent of the Outcome of Public Private Partnership Project.....	42



LIST OF FIGURES

Figure 2.1: PPP Equilibrium Framework	12
Figure 2.2: PPP Contractual Framework for Ghana	14
Figure 4.1: Takordi Port	34

KNUST



LIST OF ACROMYS

GPHA	-	Ghana Port and Harbor Authority
PPP	-	Public Private Partnership
MOFEP	-	Ministry Finance and Economy Planning
SWOT	-	Strength weakness opportunity Threat
GNHP	-	Ghana National Housing Project
PSA	-	Public Social Adjustment
DB	-	Design and Build
DBB	-	Design Bid Build
BOT	-	Build Operate Transfer
BT	-	Build and Transfer
BOO	-	Build Own and Operate
BLT	-	Build Lease and Transfer
BTO	-	Build Transfer and Operate
CAO	-	Contract Add and Operate
DOT	-	Develop Operate Transfer
ROT	-	Rehabilitate Operate and Transfer
ROO	-	Rehabilitate Own and Operate
GDP	-	Gross Domestic Product

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The movement of public–private partnership (PPP or P3) is undeniably the most relevant debate, trending worldwide in the public sector. The private finance initiative spotted in the United Kingdom began earnestly in 1992. Nearly 800 projects were sped up and delivered and valued nearly at £56 billion and more ranging from schools, car parks to and tolled highways to power plants (HM Treasury, 2008). In the same vain, a programme in Australia called Australia’s Partnerships Victoria program has a contract of 18 projects of about US\$5.5 billion in capital investment since 2000 (State Government of Victoria, 2008). North American countries, especially Canada has gotten its fair share regarding the implementation of P3 activity within its provinces. Glaring example of P3 project is the Confederation Bridge which was a design– build–finance–operate arrangement. It established a rigid relationship between the mainland and Prince Edward Island. Again, there is the lease of the 407 Express Toll Route (ETR), where in exchange for nearly Can\$3 billion a private sponsor leased this facility from the government for 99 years.

Moving away from the industrialized economies, emerging economies have embarked on using private capital to fund infrastructure projects in that public administrators are financially challenged making them look toward the private sector for basic infrastructure development (Esty, 2003). A survey of a dozen national governments across the globe was undertaken by Economist Intelligence Unit, in the late 1990s. The survey averred that respondents constituting significant majority perceived that in 2010

successful government structure will focus on policy and project/supplier management and that the private sector will be allowed to deliver almost, if not all traditional public services (Economist Intelligence Unit, 1999). The respondents were not far away from the truth in that their prediction seems on its way toward realization.

The Public Private Partnership is initiated to aid infrastructure development Ghana. P3 offers confidence to both local and international investors who would want to participate with the government. According to Amoako-Attah (2011), PPP market sounding events are opportunities the public sector to establish the market and to manage the private sector expectations on what will be achieved by the projects.

Ghana Port and Harbour Authority was established as a statutory corporation in 1986 under the P.N.D.C. Law 160 manage the ports of Tema/ Takoradi as well as the fishing harbours. The Ghana Port and Harbour Authority falls under the auspices of the Ministry of Transport (M.O.T.), which has the delegation responsibility to ensure that a good transport system plays the needed crucial role in the socio – economic development of Ghana.

Ghana is no exception when it comes to the initiation, planning and execution of P3. The P3 is a key government economic reform agenda and strategy to increase private sector involvement in infrastructure and public services delivery to reflect the desire of G.O.G. to improve the quality, cost challenges, timely provision of public infrastructure and services in Ghana. The emergence of oil and gas industry in the Western Region of Ghana, has made it important to upgrade the Takoradi Port infrastructure. This is to help meet the increasing demands of the upcoming cluster of port businesses.

1.2 Problem Statement

P3 research has significantly advanced in several multi-disciplinary directions since the early beginnings in the mid1990s. For instance, from a political economy perspective, Boardman et al. (2016, p. 11) note that P3s tend to deliver projects on-time and on-budget for reasons that include: the construction phase begins only after extensive negotiations are completed, the strong incentive mechanisms attached, and the inflexible nature of the P3 contracts. P3 literature documents that VfM (though socially constructed) remains the dominant organizing and perceived ‘objective’ model for the decision to proceed with P3s that is publicly disclosed (Khadaroo, 2014).

Furthermore, research has shown that P3s are implemented differently in different jurisdictions, perhaps unsurprising given differences in environmental and institutional arrangements, even when there are similarities in context (Jooste, Levitt, & Scott, 2011). Another stream of research documents the several critical success factors in P3 implementation (Grimsey & Lewis, 2004; Koppenjan, 2005; Kwak, Chih, & Ibbs, 2009; Zhang, 2005). Importantly, literature documents several cases of failed P3 projects (Soomro & Zhang, 2015, 2016). In addition, reviews conducted by auditors-general in many countries have concluded that P3s are more expensive than traditional infrastructure procurements (TIPs), mainly because of the higher cost of private borrowing and higher transaction costs associated with private sector financing of public infrastructure. These are not necessarily offset by savings elsewhere or VfM created via risk transfer to the private sector (Boers, Hoek, Monfort, & Wieles, 2013).

There is also a growing number of studies demonstrating that P3s face substantial governance issues arising from their hybrid nature (Shaoul, 2005; Shaoul et al., 2012), are unable to transfer risk effectively (Demirag, Khadaroo, Stapleton, & Stevenson, 2012), do not consistently deliver superior VfM when compared to TIP (Boers et al., 2013) and demonstrate overall inferior performance in terms of distributive justice (Shaoul, 2005). Little is known, from a theoretical perspective, on why governments continue with the adoption and implementation of P3s around the world. It is against this relevant background information that the current study explores the challenges of P3 on infrastructure projects in Ghana focusing specifically on Takoradi Harbour Expansion Project.

1.3 Research Questions

The study sought to answer the following questions;

1. What are the implementation challenges of P3 infrastructure projects in Ghana?
2. How do these challenges evaluated by project management team?

1.4 Research Aim and Objectives

The overall **aim** of the study is to explore implementation challenges of P3 infrastructure projects in Ghana.

Specifically, the study seeks to achieve the following objectives;

1. To identify implementation challenges of P3 infrastructure projects at Takoradi Harbour.
2. To evaluate the challenges from the perspective of the project management team.

1.5 Brief Overview of Research Methods

With reference to this study, it was important to use quantitative research method. Data was collected from primary source. Target population for the study was 50 and the sample size was 44. Purposive sampling technique was used. Instrument to be used to collect data is questionnaires. Data collected will be analyzed quantitatively using both descriptive statistics. The data collected will be first edited to remove errors and then coded accordingly. The data obtained will be analyzed using Statistical Package for Social Scientists (SPSS) version 23.

1.6 Significance of Study

Regarding the importance of Public Private Partnership (P3) projects in both advanced and emerging economies especially recent infrastructure development project in Ghana, the research work will be a useful literature for other researchers who would want to work in this field of study. The study will contribute new knowledge to literature regarding project management challenges on P3 projects. Again, the findings from this work will enable government, government agencies, and civil society organizations to know project management challenges and how these affect the P3 projects. Government, international organizations and project management experts will also benefit from this research work making them aware of the issues of project management challenges in P3 projects.

The study will serve as an important guide, source of knowledge and reference work for relevant policy makers, academicians (baseline report), practicing project management practitioners and the general tertiary students, stakeholders, and development partners.

Generally, the study offers both managerial and theoretical understanding of project management challenges on Public Private Partnership projects and programmes.

1.7 Scope of Study

This study concentrates on the construction sector in Ghana. Given that the construction sector in developing-economy markets is noted for its contribution to infrastructure development, employment and GDP, and in view of the debate that the construction sector's performance in many developing economies like Ghana is poor in terms of services provided, this study focuses on the project management challenges of P3 project at Ghana Port and Harbour Authority in Takoradi, Ghana. The research will be limited to Ghana and therefore the findings from the study will not be generalized to other countries in the world.

1.8 Limitations of Study

The project is big project with about 87 project team members. Therefore, time and money did not allow to solicit information from the entire project team. In this regard, the study used 44 project team members as respondents for analysis.

1.9 Organization of the Study

The study is organized into the following chapters. Chapter one outlines in the background to the study, problem statement, research questions, research objectives, and brief overview of research methods, scope of study and the significance of study.

Chapter two talks about the literature. The concept of P3, its implementation and challenges. Theoretical and empirical literatures on P3 will be outlined as well as conceptual framework and hypothesis.

Chapter three gives the methodology of the study. Research design, target population, sample size, sampling technique, and data collection methods, source of data and definition of variables.

Chapter four deals with the analysis and presentation of data and finally, chapter five contains summary of findings, conclusion and recommendations of the study.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter documents literatures on Public Private Partnership (PPP). The literatures focus on the following areas: contextual review detailing the historical and current issues in PPP. Again, categories of PPP are outlined. Better still, the chapter elaborates on the legal framework of PPP in Ghana, benefits of PPP, project management practices in PPP, implementation strategies and implementation challenges of PPP. Theoretical and empirical literatures are also reviewed from which conceptual framework as well as hypothesis for the study is developed.

2.1 Contextual Review

The popular approach to developing services and infrastructure is Public Private Partnerships (PPPs). PPPs is a long term corporation agreements existing between the public and the private sectors that ensure the provision of public goods. The notion of partnership in developing and renewing urban centers started in the mid-1980s and since then it has considerably attracted vehement discourse in the Western economies. However, the discourse on managing the public services is polarized and therefore opponents have advocated for the involvement of the private sector in the provision of public goods (Grimshaw et al., 2001; Ghare, 2001).

In spite of the apparent disagreements over PPP, the European Commission and the United Nations have enhanced and spearheaded PPP as a technique to promoting development in the urban centers. This is recognized in economies with public budget supporting enormous expenditures (Chang et al., 2003).

Public Private Partnership is defined as the sharing of risk between the public and private sectors to deliver timely but effective and efficient public services and infrastructure (Department of State Development, 2002). The extension to new public management that calls for changes in the provision of public goods is what is known today as Public Private Partnerships.

In the view of Shaw (2006), Public Private Partnership is mostly spotted in the area of purchasing. He defined PPP as the strategies for getting goods and services by the state using an idea of joint venture with a private sector provider.

Price Waterhouse Coopers (2002), however posits that Public Private Partnership is the arrangement made between public sector and a private sector with the private sector furnishing services and infrastructure mostly seen to be delivered by the government or public sector. Public Private Partnership has a key element of transferring risk from the public agencies to the private sector.

In spite of the argument raised by Shaw and Price Waterhouse Coopers, Osborne (2000), recognized that Public Private Partnership adoption is increasing and that the delivery of public services and policies are globally accepted because the public sector cannot effectively and efficiently provide funds needed for bigger investments. This has given a leeway to the private sector having good financial base to fill the investment gap.

Understanding and implementing PPP is not new to Ghana because the private sector has been actively liaising with the public sector in the implementation and delivery of public services since the 1990s. On the contrary, the work of the private sector in helping the public sector in executing its agenda of providing public goods has been seen in the area of telecommunication, energy, sanitation, and waste management (Osei-Kyei and Chan 2016).

More importantly, the World Bank Report (2011), argues that the private sector's participation and contribution to public physical infrastructure such as railways, roads, ports, harbors, airports, bridges, and public hospitals have been relatively small and that the responsibility of providing and ensuring effective and efficient delivery of public goods have solely rest on the shoulders of government. In recognizing this great gap, it necessary and sufficient for the government to involve the private sector to help deliver public physical infrastructures in the sense that the global financial crisis has reduced the flow of fund from donor.

Actually, the Public Private Partnership became a policy in 2004 with a national policy guideline (MOFEP 2011). The understanding and skills of local practitioners regarding PPP were lacking and this failed the vibrant implementation of the policy (Osei-Kyei and Chan 2016). Also, there was a lack of institutional structures to give a leeway for the full-scale implementation of the PPP policy specifically for infrastructure projects. The year 2011 saw policy revitalization and rejuvenation giving a new sense of touch in the national policy guideline. There was an establishment of a PPP unit, called Public Investment Division under the Finance Ministry and Economic Planning (MOFEP). This was to facilitate the execution of the policy. In March 2012, the World Bank concerted to assist the PPP initiative in March 2012 with the idea of giving funds for the pilot studies

of some selected projects. Again, the World Bank was interested in the enactment of the PPP law. There are a lot of physical public projects presently at the beginning stages yet to pass the full procurement stage (Osei-Kyei and Chan 2016). The fact remains that the pace at which PPP is implemented in Ghana very slow. In this regard, considerable efforts are needed from key stakeholders composing of the private investors, government, academicians, and civil society groups, are required.

2.2 Public Private Partnership Objectives and Equilibrium Framework

The idea of the public sector liaison with the private sector for capital emanate not falsely. Rather it resulted from modern and case-based research of others and large-scale infrastructure projects. In this regard, Garvin (2007a) designed an equilibrium framework for P3 to ascertain its challenges as well as the promotion of structured thinking about P3 arrangements. The critical objective of a P3 program is to nurture and sustain the developing the market existence. In this regard, P3 program establish equilibrium among four environments – society, industry, state, and market. Again, the collective performance of all projects will determine whether the P3 program is effective as a strategy or policy for infrastructure development and management. Also, each P3 project should seek to provide a marginal improvement in one or more of the following areas: (a) quality of service, (b) price/cost of service, (c) time of service availability, (d) level of environmental impacts, and (e) equitable distribution of social benefits (Garvin, 2007a).

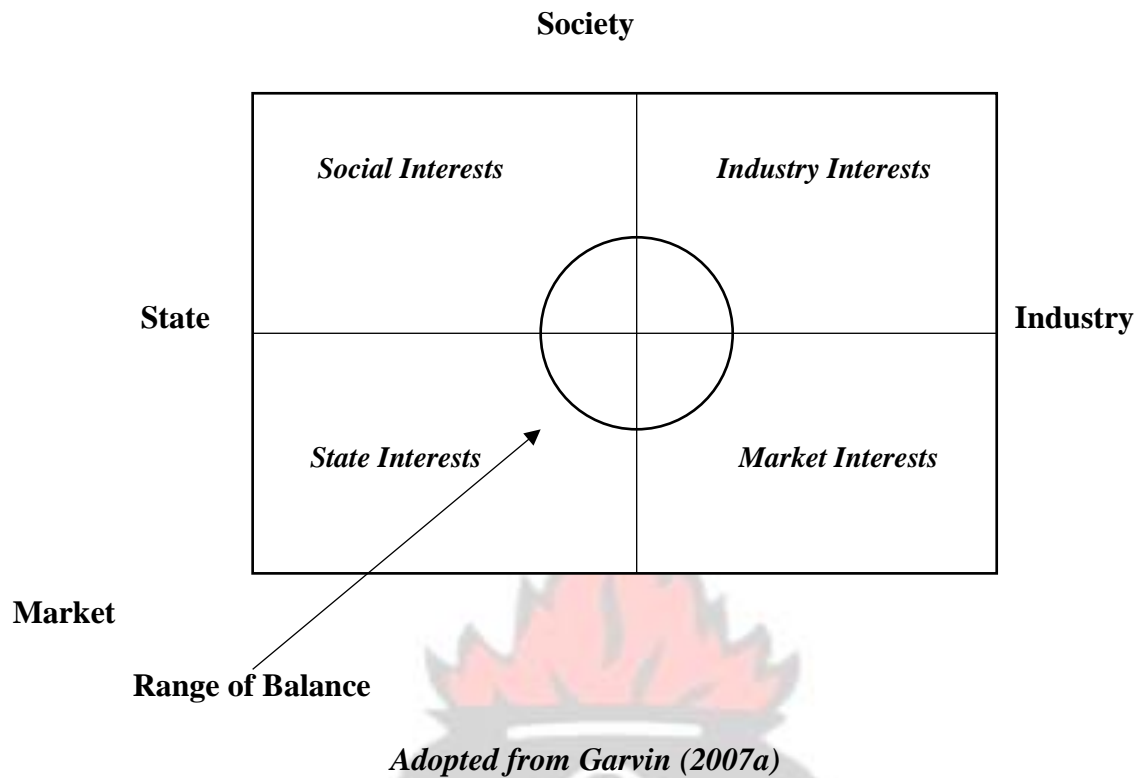


Figure 2.1: PPP Equilibrium Framework

2.3 Definitions of Public Private Partnership (PPP)

Actually there are different definition of public private partnership as viewed

In this literature, scholars, international organizations, state agencies, universally agree to these definitions. Public Private Partnership is an agreement or contractual arrangement between public entity and a private sector party, with clear agreement on shared objectives for provision of public infrastructure and services which traditionally provided by the public sector.

Levy (2011) also defines public private partnership as a way of awarding long-term concession often utilizing project companies set up by a consortium of private firms to design, finance build and operate individual infrastructure assets earlier operated and financed and by government.

However, Ibem (2010) defines public private partnership as pooling of resources from the public private sources to commonly agreed objectives.

Again, Rostiyanti and Tanin (2010) defines PPP as a collaboration effort between public and private sector organizations in public service delivery in which there are rules, institutional obligations, roles and responsibilities notwithstanding accountability to all involved parties.

2.3.1 Types of PPP

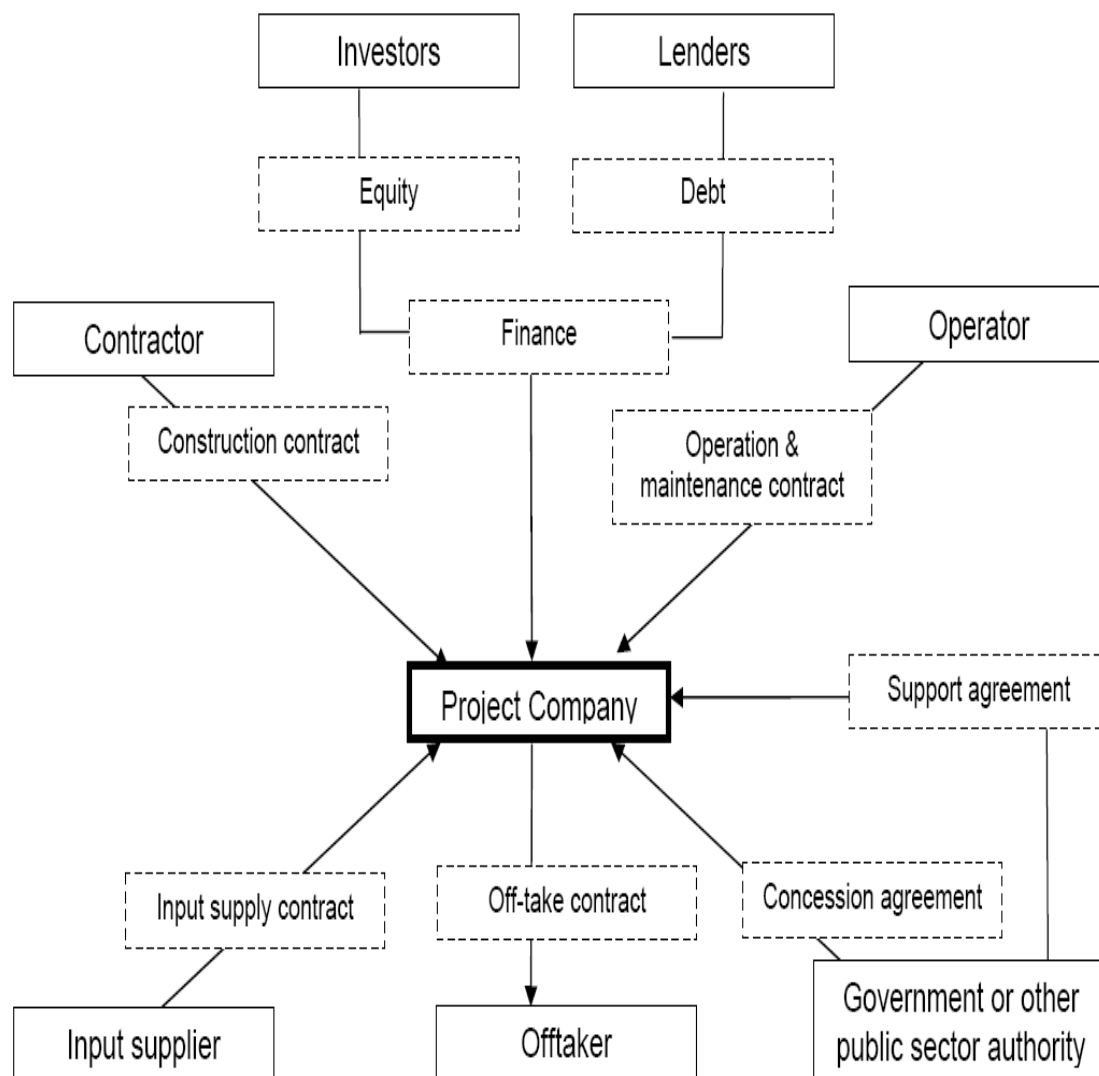
Design-Build DB: Quium (2011) mentioned that, a private partner is engaged by the public sector to provide the required design and as well as executing the construction of the project. The public entity takes over the responsibility after completion including operating and maintaining the facility.

Built-Operate Transfer (BOT): In this model the private partner builds and operate the facility for a considerable period .It is done so to enable the private partner recover its investment. When the validity period is due the ownership right is giving back to the government Algarni et al 2007.

Build own-lease-Transfer (BOLT). The Public sector gives the right to finance and build the project to the private partner. The project after completion is again leased to the public agency for an arranged tenure and fee. Accordingly, to levy (2011) the whole facility is managed by the public agency and after the expiration of the occupancy period, the project is given break to the public agency for outright ownership.

4 Develop-Operate-Transfer (DOT)- Is an arrangement by which favorable contractual conditions for the acquisition of an infrastructure is extended to a private developer. In doing that the public entity integrate the private developer adjoining properties and enjoying some benefits to be created through the investment such as rent (Quium 2011)

2.4 PPP Contractual Framework for Ghana



Adapted from Akafia et al., (2014)

Figure 2.2: PPP Contractual Framework for Ghana

2.5 Advantages for Adopting PPP in Ghana

Broadly, governments in every economy have a reasons why PPP concept is adopted to ensure efficient and effective delivery of public services. However, reasons developed economies adopt PPP concept are quietly different from that of the developing economies (Cheung et al. 2009; Osei- Kyei et al. 2014). The host nation's practitioners must understand the importance and the motivations for adopting and adapting the concept of PPP that dovetails into the performance objectives of the nation to meet the needs of the society and national policy. The three key motivation pillars on which the Ghana government stands on for adopting the PPP concept are promotion of quick delivery of public infrastructure projects; reduction of government financial burden; and allows risk sharing (Osei- Kyei et al. 2014).

Despite the stated merits in infrastructure development, Levy (2011), argued on the demerit of PPP. These include:

- 1) If care is not taken Public Private Partnership could lead to high legal issues and expensive
- 2) There is a limit of competition due to high tendering cost.
- 3) There could be the tendency of encouraging monopoly in awarding project in the system.
- 4) Public and private sections may lack suitable knowledge ideas and skills in implementing lasting projects under public private partnership.

2.6 Promotion of quick delivery of public infrastructure

Projects executed through the traditional bid-build technique are most times delayed with the reason being that public funds are not released on time, inadequate planning and variations in design. In order to curtail these difficult situations, PPP ideology is seen as the best alternative. In this regard, PPP solves the problem of delays in releasing funds, inadequate planning and design variations. Aside PPP solving these gargantuan problems, private investors in an anxious bid to recoup their returns expedite action on projects. For example, Ghana National Housing Project, was a deal between STX Engineering and Construction Ghana Ltd. and the GoG for the construction of 200,000 housing units across the ten regions in Ghana began in 2009 has been executed with the help of PPP method to satisfy the vow of solving the housing deficit in Ghana.

2.7 Reduction of financial burden of government

The World Bank in its Report in 2015 predicted has that about USD 1.5 billion will be needed every year to close the infrastructure funding gap in the next ten years in Ghana. In recognizing this assertion of the World Bank, additional funding from the private sector is necessary to shore up the existing limited funding of government to provide infrastructural development projects. For this to become reality, the PPP is one of the innovative approaches to get funds from the private sector to provide public infrastructure delivery. The gargantuan funding gap existing in public projects such as Ghana Road Fund, Ghana Education Trust Fund which are in serious deficit are now being executed with the method of PPP. On the other hand, Ontario's Auditor General (2014) reviewed 74 P3 projects, noting that they cost \$8 billion more than if delivered by TIP. Questioning the claim that P3s transferred risk to the private sector, the Auditor General observed that the P3 projects assumed unreasonably high-risk transfer,

averaging 50% of the capital costs. The Auditor General concluded that “there is no empirical data supporting the key assumptions used by Infrastructure Ontario to assign costs to specific risks” (p. 197). For instance, the Auditor General determined that Ontario’s William Osler Centre (a P3 hospital) could have cost \$200 million less using TIP, noting that the cost of the TIP model was overstated by more than \$600 million. Further, the Auditor General was of the view that the \$34 million spent on advisors and consultants was higher than would have been expected under a TIP model.

2.7.1 Allows sharing of risk

PPP has a critical component of risk sharing agreements where risks are allocated to the partners in contract and this mostly favours the party with good techniques of risk mitigation (Ke et al. 2010). In PPP, the private partner has a larger component of project risk retains as against the traditional bid-build system, where the public client retains the majority of project risks. Adopting PPP gives the private sector the larger risk retains and that the risk allocated to the public sector is small. This helps in public administrative cost incurred in procuring public facilities. With respect to this, the GoG has ordered explicit that public departments and agencies must not involve in PPP transaction which do not transfer large amount of risks including financial risks to the private partner (MOFEP 2011). This has gone a long way changing the deplorable state of public projects in Ghana.

2.8 Project management practices in PPP

The first step of the project preparation involves identifying the likely project that calls for PPP. Project defined to be the priority is recommended. Project regarded as occupying the heart of strategic development such as harbor, hospital railway is selected

first in PPP projects. This increases the investment volume and makes savings possible. Again, other projects seen as priorities either bundled or unbundled are also executed with urgency and investment volume. Combining different projects at this stage in PPP gives priority to projects considered most appropriate (Pollit et al., 2004).

After defining project as good and appropriate for PPP, a project letter is written. The content of the letter provides a brief description of the current situation and objectives of the project with numeric data globally. The major component of the letter is the project feasibility study which values the demands of the private sector for public private partnership together with the risk transfer possibility to the private partner and public tasks. Legal matters are valued, cost-benefit analysis, SWOT analysis and user satisfaction analysis of the delivered public good are examined at this point. The important section in preparing PPP project is valuing public services demands on the public goods market. Valuing the market demands contain data quality and quantity. If the valuation indicates that there is not enough demand for public services on the market, the planned project is considered inappropriate for PPP (Pollit et al., 2004)

The second part of the preparing project for PPP involve public finance analysis. This analysis has an aim of defining the possibilities of public budget in financing the project. On this level of the project management PPP-model is considered seriously and that public tasks are transferred to the private partner. These two criteria affect essentially public capital needs. Human resource analysis is added to the public finance analysis. Human resource analysis has a goal of valuing the PPP competencies of the employees in the public organization. An answer has to be given to the question: can the public

organization manage the PPP-project by itself, or will it be necessary to outsource PPP advisers (Pollit et al., 2004).

The first and second part of preparing project have data collection procedure. The data must contain enough information for the final acceptability and suitability test of the proposed PPP-project. The suitability test is made up of two criteria: non-project criteria and project criteria. Non-project criteria are the competencies of organising public PPP, this include political and bureaucracy barriers as well as legislative matters. Project criteria compose of the investment volume, the floor space of the project, the transfer of public tasks to the private partner, private capital involvement, the location of the project and the bundle of more projects into one PPP-project (Pollit et al., 2004)

Project evaluation is the second step in the PPP-project management model. PPP-organization model (ownership model, leasing model, concession model, project model, et c) has to be defined, transferred public tasks to the private partner (techniques of collaboration like DBFO, BOOT, BOT, DB, and others are identified at this stage. Controlling model is built in into the PPP-organisation model to promote the public service delivery.

Output specifications of the construction work and the services that the private partner has to fulfil in the PPP project is defined (Pollit et al., 2004)

After the project valuation is done, PPP project management goes further to ensure higher efficiency that call for competitive dialogue. The competitive dialogue involves several phases; the public organisation insure formal award from the representatives for an invitation for tenders. An expert group (economists, lawyers, engineers) for the

competitive dialogue is formed. The invitation for tenders call for the private partners to make a statement of interest for the PPP- project. If with the invitation for tenders more than two (2) private partners competent for PPP cannot be chosen, the PPP-project has to be stopped. If at least three (3) private partners are selected the competitive dialogue goes on with the formal presentation of the private partners offers. Every offer has to be evaluated with the Public Sector Comparator. If the Public Sector Comparator shows that the private partners offer is more expensive than the traditional way of building public infrastructure, the PPP-project will also be stopped. The PPP-contract will be signed with that private partner, who can deliver the best efficiency (savings, quality, efficient operations, and policy effects) to the public partner (Pollit et al., 2004).

The fifth step in the management of PPP projects model is project evaluation. Again the Public Sector Comparator is used for the final evaluation of the PPP-project after the expiration of the PPP-contract. This final evaluation is of high importance as it can deliver empirical data for the success or non-success of PPP-projects. In final the ownership over the public facilities has to be in some cases transferred to the public partner and a decision of further use of the public infrastructure by the public organisation has to be made (Pollit et al., 2004).

2.9 Project management Implementation challenges of PPP

Implementing PPP in Ghana faces great many challenges as spotted in many other developing economies. Importantly, the challenges emanate from various aspects ranging from organizational environments to sociopolitical of PPP implementation. Nonetheless, the relevant problems in Ghana's PPP practice involve the lack of experience and

appropriate skills in PPP delivery, misallocation and incomplete transfer of risks, and highly use of unlawful proposals (Osei-Kyei and Chan 2017b).

2.10 Lack of appropriate skills and experience

PPP projects are large scale and complex and that highly experienced personnel are required to manage. Personnel in public and private sectors have very little skills to handle PPP project transactions in Ghana. Civil servants and Public officers are more conversant with the traditional approach to handling project as compared to PPP arrangements that has contributed greatly sluggish pace of PPP development in Ghana (World Bank 2009). More importantly, limited professionalism seen in local professionals are spotted in project such as the GNHP. With regard to this project, inexperience on the part of the local people were exhibited in areas such as unclear contract conditions giving greater advantage to the private sector rather than state. This resulted in the withdrawal of contract from parliament. Again, there is an evidence on the Nungua Seawater Desalination Plant project where Ghana Water Company Limited negotiated an unacceptable contract that lead to numerous risks including the demand and tariff risks were retained by the local authority instead the risks should be transferred to the business owner. Actual this unacceptable negotiated contract resulted in gargantuan bankruptcy to the local state authority.

2.11 Incomplete transfer and misallocation of risks

One critical feature of PPP transaction is risk sharing. Improper allocation transfer lead to litigations and poor performance. This notwithstanding, Ghana has experienced PPP transaction risk misallocation because PPP projects have been poorly handled. This has resulted in authorities reaping excessive risks. Also, there is improper identification of

risks that do not take into consideration emerging risks. This is evident in GNHP project where the financial risk was actually shared between the government and the investor. Risk demand for this project was retained by the state. These allocations placed the government in poor position to achieving value for money. Actually, it decreases the benefits of the PPP concept for developing infrastructure. Public Private Partnership projects might be affected by a number of reasons such as the category of Project, the country of which the project is to be found and again the kind of Public Private Partnership to be used.

Although there is no define risk list applicable to Public Private Partnership. The approach categories PPP risks are micro, meso, and macro levels. Micro is partner related risk as the meso-level risks which are seen to be influence by external factors to the project area such as construction, maintenance, political, operation and financial risk market and legal.

2.12 Use of highly unlawful proposals

Generally, facilitating corruption is easy using proposals that are unsolicited for PPP implementation which has been vehemently criticized. Submission of project idea to the government department aiming to developing the project through negotiation is called unsolicited proposal (Hodges 2003). Countries have promulgated laws and regulations to guide the management of unsolicited PPP proposals but Ghana has no sufficiet measures for such approach of implementing public private partnership. However, this technique or strategy of implementing PPP has been the preferred approach by the government and other local institutions.

Using unlawful Public Private Partnership proposals tarnishes affordability and transparency. Actually, unsolicited public private partnership projects contain condition that are in line with private partner rather than the public authority and general public. This is evident in the Ghana National Housing Project. It was directly negotiated with the proponent without any procurement procedures. In fact, the estimated price of a house was very expensive, and certainly, it would have been difficult for an ordinary person to procure.

2.13 Theoretical Literature Review

Understanding and implementing the Public Private Partnerships is guided by theories. The theories become the guiding principles of adopting and adapting the PPP. The two guiding principles of PPP are normative and positive theories.

2.13.1 Normative Rationales for PPP

The normative explanations for PPPs give the reasons why the use of PPPs is appropriate to providing infrastructure. Boardman and Vining (2010), argue that the most important normative criteria for most decision making of government is efficiency in resource allocation efficiency or social welfare. No matter the version of the goal, there is expression of linear combination of (the present value of) consumer benefits (consumer surplus), private sector benefits (producer surplus), employee benefits (employee surplus) and net government revenues (government surplus). The benefits or costs that each group bears should be adjusted for risk. The PPP should then be compared to other alternative procurement method(s), the PSA.

2.13.2 Positive Rationales for PPP

Using PPPs to obtain infrastructure has specific characteristics making them highly attractive to governments. Hodge and Greve (2010), espouse that PPPs is understood to have legal position and that there is a legitimate approach to project-delivery that has the ability to give public value when used appropriately. In this regard, it is very important to see why governments may seek to leverage PPPs to realize their own political objectives. Drawing on political economy theory, we refer to these reasons as “positive” rationales for government selection of PPPs.

2.14 Empirical Literature Review

Both developed and developing economies have adopted PPPs. Economies like Australia, Ireland, South Korea, India, Spain, South Africa and Turkey. In US, PPPs implementation has focused on roads and highways as well as water treatment. In the late 2012, about 32 states enacted PPP- promoting legislation (Geddes et al., 2013). Some states in US have benefited from PPP in that private sector contribution is very relatively small percentage to capital with the remainder coming from federal states loan and grants. In addition to the above, the private sector builds and operates new prison facilities. An evidence is seen in the I-495 Capital Beltway HOT Lane project, where the private equity partner only furnished financing for US\$349 million of the US\$1.93 billion total.

Auditor General of British Columbia (2014) reviewed 16 P3 projects and expressed major concerns about the high debt cost incurred on the P3 projects. The Auditor General wrote: “the interest rates on this \$2.3 billion of P3 debt range from 4.42% to 14.79%, and have a weighted average interest rate of 7.5%. Over the last two years, government had a weighted average interest rate on its taxpayer-supported debt of about 4.0%” (p.

18). The AG's review shows that P3 projects are not only saddling the province with higher debt levels than if the project had used TIP, as interest rates are almost double with P3s, but also higher overall project cost.

Again, Boardman et al. (2016), argue that several problems surround the application of PSC in project evaluations. These include: the potential for underestimating transaction costs; the inability to compare "like with like" that may not account for quality differences between the P3 and the PSC; the use of inappropriate discount rates; inappropriately treating risk transfer as a financial benefit or measure it poorly; and, over-correcting for optimism bias.

On the contrary, China has reaped incredible and extensive success in using PPPs. This is evidenced in transit, road and water sectors. In most cases there is a combination of the public and private sectors, with most plans seen in the area of PPP. In Canada, Public Private Partnerships compose Highway 407 (1999), the Confederation Bridge (1997) and the Pearson Airport in Toronto (1996). Boardman and Vining have given details of account of the period 2000–2010 in Canada. Public Private Partnerships are used at the provincial level, with relatively few at the municipal or federal levels. From 2000–2010, British Columbia (B.C.), Ontario, Alberta, and Quebec were the most active provinces.

2.15 Nature of Partnership

The law governing partnership in Ghana is the incorporated private partnership act, 1962 (Act 152). This law has been amended three times: (i) the incorporated private partnerships (Amendment) Act, 1980 (Act 423)', (ii) the incorporated private partnership (Amendment) Act, 1997 Act 532, and (iii) The incorporated private partnerships (Amendment) Act 2001 (Act 605). Act 152 which came into operation on 1st January, 1963 provided for the incorporation and registration of partnerships. Under section 3, a

partnership is defined as “the association of two or more individuals carrying on business jointly for the purpose of making profits”. The total number of partners shall not exceed 20. In Ghana, a 1-person partnership is unknown to law and 21 partnerships is forbidden by law. However, under section 5 of the companies code (Act 179), exemption is made for some partnerships if formed pursuant to some other enactment in force.

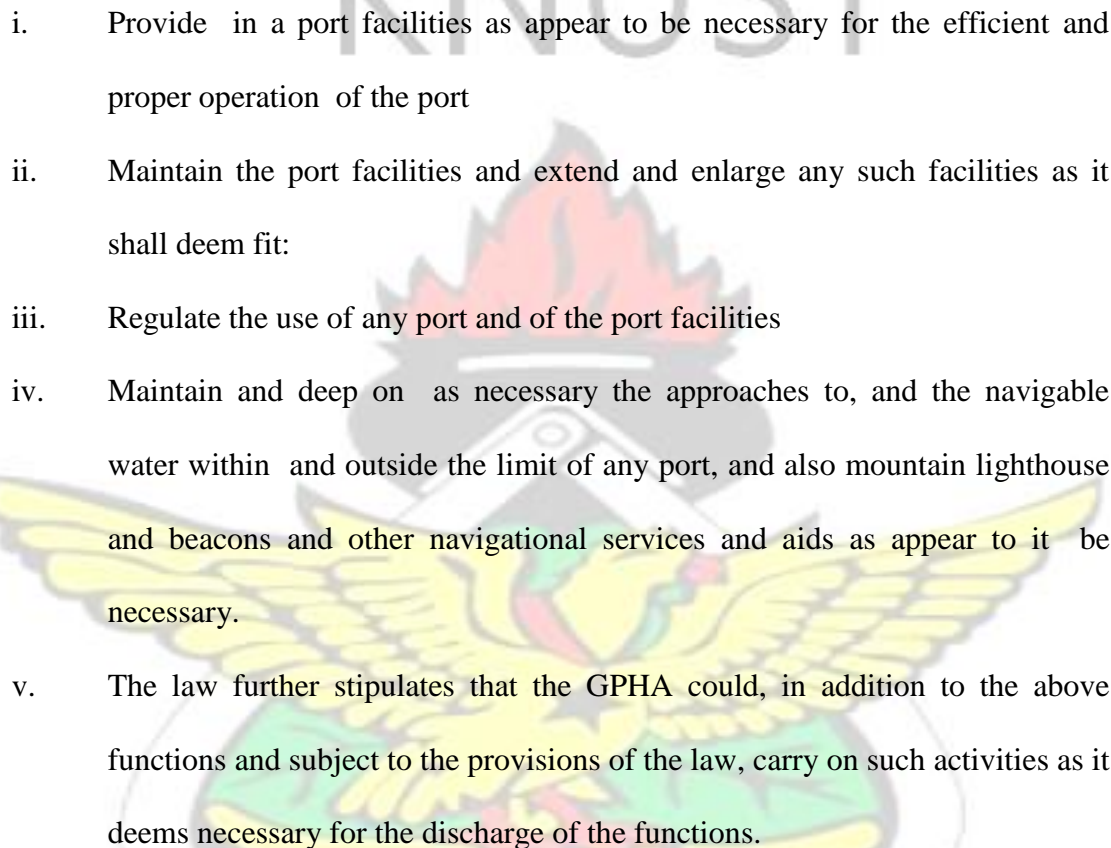
Section 5 of Act 179 reads. “No company, association or partnership consisting of more than twenty person’s shall be formed for the purpose of carrying on any business that has for its object the acquisition of gain by the company, association or partnership, or by the individual member thereof, unless it is registered as a company under this code or is formed in pursuance of some other enactment in force.

2.16 Legal framework of the project

Ghana port and harbor authority is committed to comply with the multinational and national policies, laws and regulations relevant to its operations. These include the World Bank’s environmental and safeguards policy the International Finance Corporation (IFC) performance standards and environmental, health, safety (EHS) General guidelines and (EHS) Guidelines for ports and harbor. International maritime conventions.

It must be noted that the scope and intent of the international policies/ standards such as the (IFC) performance standards are addressed in the Ghana’s environmental and social regulatory framework presented in this chapter. These include the national environmental policy, the environmental protection act, the environmental assessment regulation etc.

Ghana ports and harbors authority law 1986, PNDC law 160 the Ghana ports and harbors authority law, 1986, PNDC law 160 mandates the Ghana ports and harbors authority (e-PHA) to plan, Build develop, manage, maintain, operate and control port in Ghana. The law enjoins the GPHA among other function to:

- 
- i. Provide in a port facilities as appear to be necessary for the efficient and proper operation of the port
 - ii. Maintain the port facilities and extend and enlarge any such facilities as it shall deem fit:
 - iii. Regulate the use of any port and of the port facilities
 - iv. Maintain and deep on as necessary the approaches to, and the navigable water within and outside the limit of any port, and also mountain lighthouse and beacons and other navigational services and aids as appear to it be necessary.
 - v. The law further stipulates that the GPHA could, in addition to the above functions and subject to the provisions of the law, carry on such activities as it deems necessary for the discharge of the functions.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter looks at research method and design. It concentrates on the research design, target population, study population, sample and sampling technique, sample size, data collection method and data analysis.

3.2 Research Design

The study uses quantitative research design. According to Orodho, (2009a), quantitative design helps in collecting data from individuals of a population to ascertain the recent status of the population in relation to one or more variables. Quantitative, for that matter is a good design for this study because it enables the researcher to obtain information that explains the current situation in public private partnership in Ghana.

3.3 Sampling Procedures

3.3.1 Target Population

The target population for the study will be all individual employees; engineers, project managers, consultants at the Takoradi Harbour in the Western Region.

3.3.2 Study Area

Western Region, specifically Takoradi Harbour is chosen for this study because most projects undertaken at the harbour are Public Private Partnership Projects.

3.3.3 Study Population

“Study population is the sum of all elements from which the sample is actually selected” (Ruben and Babbie 1989). According to the statistics from the Ministry of Finance (MoF), the total number of project team members comprising two project contractors - Jan De Nul of Belgium(JDN) carrying out the construction of the breakwater, dredging of the port basin and construction of the bulk detty and China Harbour Engineering (CHE) of China carrying out all the land based civil infrastructure including the road construction and reclamation of the coastline within the current port jurisdiction and Messrs Sellhorn/HPC consortium of Germany supervising the contractors on behalf of GPHA is fifty (50). In this regard, the study population for this research was Fifty (50).

3.3.4 Sampling Technique

The examination utilized purposive sampling strategy to sift data from the respondents in light of two reasons: first, simple choice and distinguishing proof of people or gatherings of people that are capable and all around vexed in data with a wonder of intrigue (Cresswell et al., 2011). Second, the significance of readiness and accessibility to take an interest, and the capacity to convey encounters and feelings in an expressive, intelligent way, and understandable (Bernard, 2002; Spradley, 1979).

3.3.5 Sample Size

The study will use forty-four (44) respondents with an alpha level of 5% following the sample size determination table developed by The sample size calculation by Yamane (1967) is given by:

$n = \frac{N}{1+N(e)^2}$, where n is the sample size, N is the population size, and e is the level of precision.

$$n = \frac{50}{1 + 50(0.05)^2}$$
$$= 44.$$

3.3.6 Sampling Frame

Sample frame according to Rubin and Babbie (1989) is “the actual list of sampling units from which the sample is selected”. The sample frames made available for use will be the list of workers at Takoradi Harbour.

3.4 Data Collection Instruments

Questionnaires were the fundamental instruments used to gather data for the research work. A questionnaire is a research instrument consisting of a series of questions for the purpose of gathering information from respondents (Gujarati, 2002). The use of questionnaire in this study had several advantages, which include the ability to reach all respondents and was economical to use in terms of money and time. The closed ended questions had specific pre-defined options for respondent to choose from, while some of them were structured likert questions. To design and setup the survey questionnaire, enquiry questions were grouped from the general to the more specific. The first section

of the questionnaire was developed to collect information about the demographic characteristics of staff of the Takoradi Harbour Expansion Project.

3.4.1 Sources of Data

Data will be collected from primary sources. Primary data will be collected through quantitative research method. Data will be obtained through key questionnaires. In collecting the data, simple questions will be used to ensure that sufficient information from the respondents are sieved.

3.5 Theoretical Model for the Study

The normative rationale model of PPP guides the study.

The normative explanations for Public Private Partnership give the reasons why the use of PPPs is appropriate to providing developmental infrastructure projects. Boardman and Vining (2010), mention that the most important normative criteria for most decision making of government is efficiency in resource allocation.

3.6 Validity and Reliability of Research Instrument

Three (3) to five (5) respondents will be used as pre-test to ensure increase validity, understanding, difficult questions and respondents' willingness to respond to questions (Ghauri et al., 2005; Orodho, 2012). Pre-testing made language clearer and tested accuracy and sustainability of instrument. Pre-test respondents were selected randomly from the targeted population. Ensuring content validity entailed giving questionnaire to research and project management expert to cross check whether or not all project management processes have been outlined. Their corrections together with those from the pre-test was incorporated in the final questionnaire.

3.7 Chapter Summary

This chapter described the procedures by which data required for the study is collected. Specifically, it covered the research approach, research design, population, sample and sampling techniques, and research instruments, data collection procedure, instrument validity and instrument reliability.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION OF FINDINGS

4.0 Introduction

This chapter presents the study's results and the discussions of the findings. The key sections of the chapter includes: overview of the study area, respondent profile, descriptive results, measurement assessment, discussions, and chapter conclusion.

4.1 Overview of the Study Area

Western Region of Ghana harbours the Takoradi Harbour. Specifically, the industrial district of Sekondi-Takoradi is where the harbour is located. The harbor is one of the oldest in Ghana. The brain behind idea the port construction was first spearheaded in 1895 by soliciting ideas from engineers of the British government. The engineers suggested that the harbour when constructed could serve both as a terminal port for the Tarkwa railway project and a naval port to serve the British Empire in war times. The site for the harbour was proposed at the Amanful village which sat in the bay of the harbour today. The construction of the port begun in 1921 by then governor of the Gold Coast, Sir Gordon Guggisberg and was completed in 1928.



Figure 4.1: Takoradi Port



4.2 Project location

The port of Takoradi is located at a cape on the Gulf of Guinea on longitude $4^{\circ}52'60.00''\text{N}$ and latitude $1^{\circ}43'60.00\text{W}$ in the present harbor city Takoradi about 228km West of Accra the capital city of Ghana. The location map is shown on figure 3.

The port is located midway between Accra and Abidjan, the capital city of Ghana and the capital city at Cote d'Ivoire respectively. It is the 228km West of Accra and 300km East of Abidjan. To the North, Takoradi port is 963km from Ouagadougou in Burkina Faso. From the sister port as Tema to Ouagadougou is 960km.

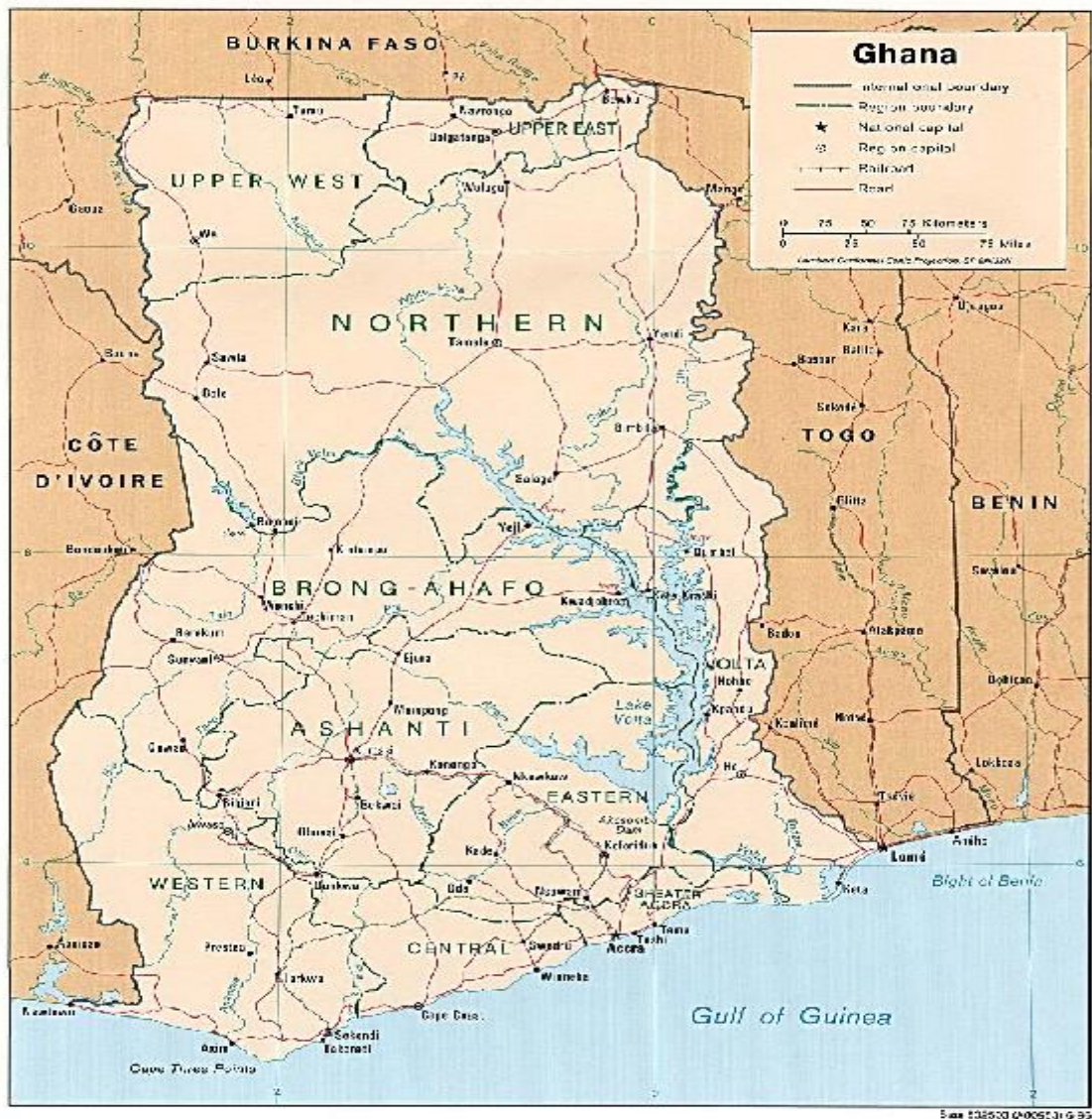


Figure 4.2: Ghana Map

4.3 Respondents' Profile

The study sought to explore the challenges of public private partnership on infrastructural projects in Ghana taking a case study at the Takoradi Harbour Expansion project. The study used a sample of employees in the construction sector firm operating in the Sekondi Takoradi Metropolis in the Western Region of Ghana. The study administered 48 questionnaires and 46 were retrieved. Preliminary checks for incompleteness however revealed that 44 could be considered usable for the study. As shown in Table 4.2, majority of the respondents had ages between 31 to 36 years old (53.3%, n=44) and 37+ years old (30.0%, n=44) and 25 to 30 years old (16.7%, n=44). Moreover, regarding educational background, majority of them held JHS certificate (36.6%, n=44) while those holding professional certificate (19.5%, n=44), SHS/O Level certificate (12.2%, n=44) or bachelor degree holders (4.9%, n=44). Further, majority of them were project managers (56.7%, n=44) either M&E or programmes manager (15.1%, n=44) either PMP (12.2%, n=44) and portfolio manager (4.9%, n=44). Again, with professional qualification majority were fellows (56.7%, n=44). Full members represent (26.7%, n=44) and (16.7%, n=44) represent associate members. Regarding professional experience, almost all the workers on the project had less than ten years working experience (73.2%, n=44).

Table 4.3: Breakdown of respondent profile

Variable	Category	Count	% of n
Age (years)	25-30	5	16.7
	31-36	16	53.3
	37+	9	30.0
Gender Status	Male	21	61.7
	Female	9	23.6
Education level	JHS Certificate	15	50.0
	SHS Certificate	5	16.7
	Professional Certificate	8	26.7
	Bachelor's Degree	2	6.7
Professional Background	PMP	6	12.2
	M&E	8	15.1
	Programms Manager	8	15.1
	Portfolio Manager	2	4.9
	Project Manager	17	56.7
Professional Qualification	Fellow	17	56.7
	Associate Member	5	16.7
	Full Member	8	26.7
Professional Experience	Less than 10yrs	30	73.2
	10 – 19yrs	0	0
	20 and above	0	0

Note: $n = 30$

Source: Field study (2018)

4.4 Descriptive Results

This section presents descriptive results on the study's constructs – that is conceptual understanding of project management, project management implementation challenges of public private partnership and the outcome of public private partnership project. A Likert scale of 4-point scale that ranged from strongly disagree (=1) to strongly agree (=4) was used to measure all items.

4.4.1 Conceptual Understanding of Project Management

Conceptual understanding of project management was measured with a 21-item scale adopted from Pollit et al., (2004). The descriptive results on the items and their composite (average) score are shown in Table 4.2. Of the 13 items, the lowest mean score was 4.24 (standard deviation = .916) and the highest means score was 4.78 (standard deviation = .530). The overall mean score was 4.57 (standard deviation = .436). Given a scale of 1 to 4, these results, suggest that the participants in the study are very much concern about organizational culture in the company.

Table 4.4a: Extent of Conceptual Understanding of Project Management

<i>Item Code</i>	<i>Item Statement</i>	<i>Mean</i>	<i>Std Dev</i>	<i>Min</i>	<i>Max</i>
PJa	What is a project	1	0	1	1
PMb	What is project management	2	0	2	2
PPPC	What is public private partnership	2.13	0.730	1	3
WPPP	Is the project you are working on public private partnership	1	0	1	1
OVP	If yes, please give a brief overview of the project	1.96	0.964	1	3
YPT	Please, do you know the number of years the project will take	1.16	0.379	1	2
PS	If yes, when did the project start	1.93	0.691	1	3
PI1	Selected project has strong socioeconomic benefits	2.6	0.932	1	4
PI2	Selected project has strong technical benefits	2.6	0.932	1	4
PI3	Selected project has well-structured infrastructure plan	1.93	0.691	1	3
SE1	Local commuters, trade unions, civil society groups are engaged in discourse from the beginning of the project	2.63	0.964	1	4
SE2	Community meetings are used at the project initiation	1.93	0.691	1	3
SE3	Press conferences are held to engage the general public	2.6	0.932	1	4
RA1	There is comprehensive and updated risk register	2.6	0.932	1	4
RA2	There is proper identification of project risk	2.6	0.964	1	4
RA3	There is efficient allocation of risk to the best party	2.6	0.932	1	4
RA4	There is balanced risk sharing	2.5	0.953	1	4
CT1	There is value for money as a result of competition	2.6	0.932	1	4
CT2	There is clear and available contract information	2.6	0.932	1	4
LF1	The project is guided by laws and policy	2.6	0.932	1	4
LF2	Detailed information in the laws and policies for the implementation of the project	2.6	0.932	1	4
	Composite (average score)	2.19	0.609	1.0	3.2

Note: $n = 30$

Source: Field study (2018)

4.4.2 Project Management Implementation Challenges of PPP

Eight (8) items were adopted from Osei-Kyei et al., (2017b) to measure project management implementation challenges. Four variables were measured. Project management skills and experience, transfer and allocation of risk and proposals. To make the results easily interpretable, the scores obtained were recoded to reflect project management implementation challenges. Respectively, the study rephrased the dimensions of project management challenges as outlined above. The descriptive statistics of the items and their overall average score are shown in Tables 4.3. Across the four dimensions, an average participant scored 2.6 (standard deviation = .932). 2.55 (standard deviation = 0.933), 4.7 (standard deviation = 0.921), and 2.45 (standard deviation = 0.917) mean scores were obtained on project management skills and experience, transfer and allocation of risk and proposals. Given a scale of 1 to 4 used to measure the items, these results suggest that an average participant demonstrates slightly above average project management implementation challenges of the PPP project.

Table 4.4b Extent of Project Management Implementation Challenges of PPP

<i>Item Code</i>	<i>Item Statement</i>	<i>Mean</i>	<i>Std Dev</i>	<i>Min</i>	<i>Max</i>
IC	Is the project facing implementation challenges	2.6	0.932	1	4
PMSE1	Highly experience personnel are employed to manage the project	2.5	0.935	1	4
PMSE2	Personnel employed have enough skills to handle the project	2.6	0.932	1	4
TAR1	Personnel fully understand risk sharing	2.6	0.932	1	4
TAR2	Proper identification of project risk	2.5	0.899	1	4
TAR3	Efficient allocation risk	2.6	0.932	1	4
PS1	There are laws and regulations to guide unsolicited proposals	2.4	0.937	1	4
PS2	Widespread corruption as a result of unsolicited proposals	2.5	0.897	1	4
	<i>Composite (average) score</i>	2.5	0.808	1	4

Note: $n = 30$

Source: Field study (2018)

4.4.3 Outcome of Public Private Partnership Project

Two (2) items were adopted from (Boardman et al., 2010; Hodge et al., 2010) to measure the outcome of public private partnership project. Two broad questions with six specific questions were asked. Has the Takoradi expansion project gotten positive outcome and if yes, which of the outcomes is seen in the project – consumer benefit, private benefit, and employee benefit and net government revenue. Respectively, the study rephrased the dimensions of Public Private Partnership (PPP) project outcomes outlined below. The

descriptive results on the items and their composite (average) score are shown in Table 4.2. Of the six specific questions, the overall mean score was 2.4 (standard deviation = .990). Given a scale of 1 to 4, these results, suggest that the participants in the study are very much concern about outcome of the project.

Table 4.4c: Extent of the Outcome of Public Private Partnership Project

<i>Item Code</i>	<i>Item Statement</i>	<i>Mean</i>	<i>Std Dev</i>	<i>Min</i>	<i>Max</i>
OUTC1	The project has positive outcome	2.2	0.827	1	4
OUTC2	If yes, which of the following is/are the outcome(s) of the project	2.6	1.154	1	4
	Composite (average) score	2.4	0.990	1	4

Note: $n = 30$

Source: Field study (2018)

4.5 Discussions

The popular approach to developing services and infrastructure is Public Private Partnerships (PPPs). PPPs is a long term corporation agreements existing between the public and the private sectors that ensure the provision of public goods. The Public Private Partnership is initiated to aid infrastructure development Ghana. P3 offers confidence to both local and international investors who would want to participate with the government. According to Amoako-Attah (2011), PPP market sounding events are opportunities the public sector to establish the market and to manage the private sector expectations on what will be achieved by the projects. Osborne (2000), recognized that Public Private Partnership adoption is increasing and that the delivery of public services and policies are globally accepted because the public sector cannot effectively and

efficiently provide funds needed for bigger investments. This has given a leeway to the private sector having good financial base to fill the investment gap. In an attempt to contribute to this findings, the present study relied on a sample of 30 employees working on the Takoradi Harbour expansion project in the Western Region of Ghana. The results obtained are discussed below:

4.5.1 Conceptual Understanding of Project Management,

Descriptive results obtained show that the sample conceptual understanding of project management is very high. On a scale of 1 to 4, a participant in the study, on the average, scored 2.19 on the 21-item (adopted from Pollit et al., 2004) used to measure conceptual understanding of project management. In their study of project management practices in PPP, it was seen that PPP project execution go through the steps of project preparation involving identifying the likely project that calls for public private partnership.

4.5.2 Project Management Implementation Challenges

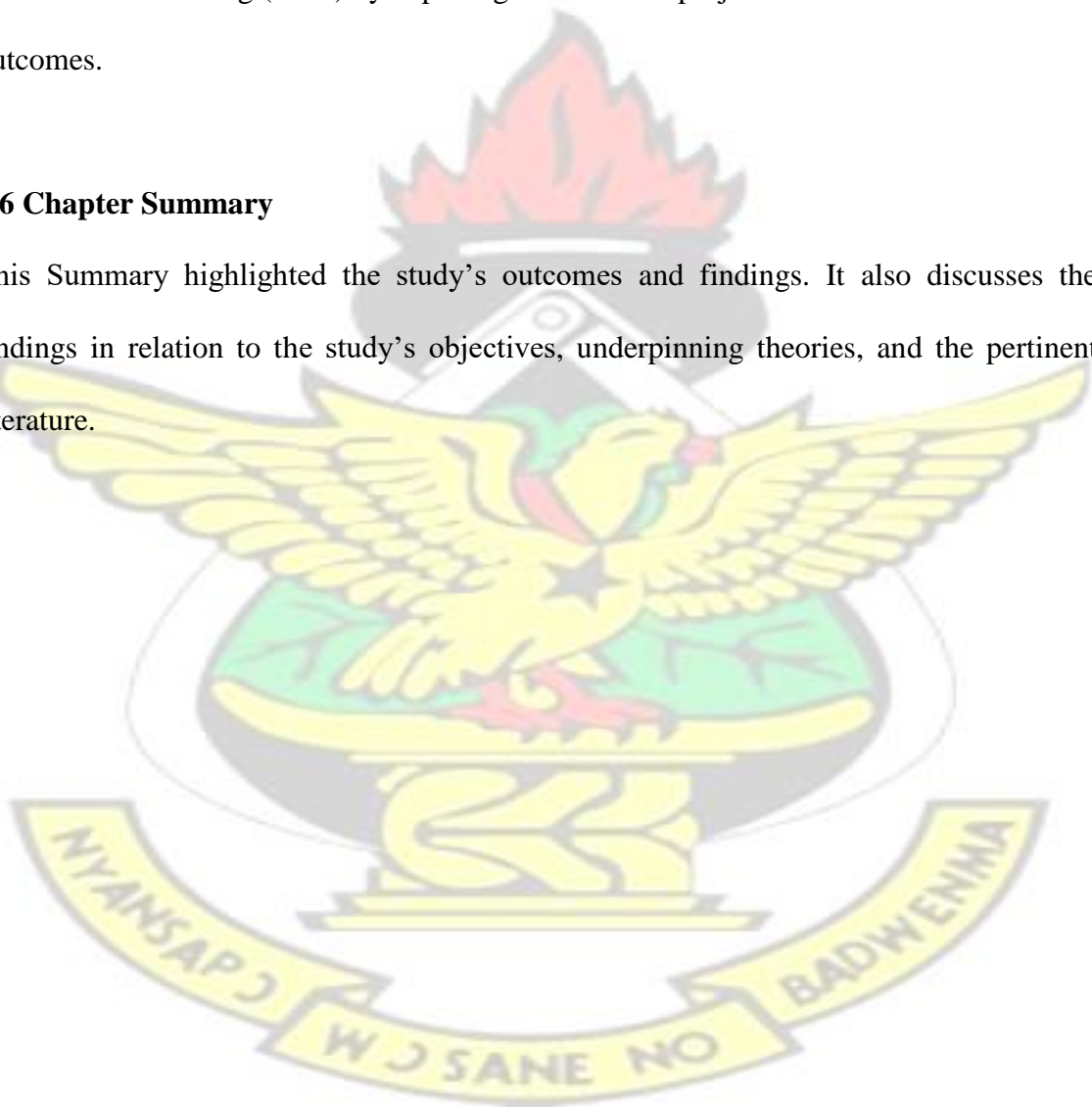
On the other hand, concerning project management implementation challenges, the study found that an average participant demonstrates slightly above average project management skills and experience (mean score = 2.56), transfer and allocation of risk (mean score = 2.56), and proposals (mean score = 2.45). Evidence from World Bank (2009) show that there is a limited experience seen in local practitioners is spotted in project such as the GNHP. With regard to this project, inexperience on the part of the local people were exhibited in areas such as unclear contract conditions giving greater advantage to the private sector rather than state. The study found that human resources on the Takoradi Harbour expansion project have experience and skillful practitioners.

4.5.3 Outcomes of Public Private Partnership Project

With reference to the outcomes associated with public private partnership project, the descriptive results on the items and their composite mean score was 2.4 (standard deviation = .990). Boardman and Vining (2010) in their findings of PPP project argued that the most important normative criteria for most decision making of government is efficiency in resource allocation efficiency. This study commensurate the findings of Boardman and Vining (2010) by depicting that the PPP project at Takoradi has numerous outcomes.

4.6 Chapter Summary

This Summary highlighted the study's outcomes and findings. It also discusses the findings in relation to the study's objectives, underpinning theories, and the pertinent literature.



CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The purpose of the study was to explore the challenges of public private partnership projects in Ghana with specific concentration on Takoradi Harbour expansion project. This chapter of the study provides summary of the study findings in congruence with the slated research objectives. The chapter also presents thorough conclusion and recommendations based on the findings discovered by the study. The recommendations of the study covered two broad areas namely policy or practical recommendations and future research recommendations. Whilst the practical recommendations cover steps to improve policy development regarding public private partnership projects, future research recommendations cover information for future researchers on the topic understudy.

5.2 Summary of Findings

The claim that public private partnership is the popular approach to developing services and infrastructure is plausible to many government and countries. However, Implementing Public Private Partnership (PPP) in Ghana and other developing economies faces great many challenges. Importantly, the challenges emanate from various aspects ranging from organizational environments to sociopolitical of Public Private Partnership context. Nonetheless, the relevant problems in Ghana's Public Private Partnership(PPP) practice involve the lack of experience and appropriate skills in Public Private Partnership(PPP) delivery, misallocation and incomplete transfer of risks, and highly use of unlawful proposals.

In the light of this the purpose of the study was to explore the challenges of public private partnership projects in Ghana with specific concentration on Takoradi Harbour expansion project.

The first objective of the study was to identify project management implementation challenges of P3 projects in Ghana. The study found a very low level of implementation challenges of public private partnership project at Takoradi Harbour expansion project.

The second objective of the study was to evaluate the challenges from the perspective of project team. The study found that project team equally rated the challenges the same in that regarding project management skills and experience, transfer and allocation of risk, and proposals all are low.

5.3 Conclusion

Public Private Partnership on infrastructure projects is very vital subject matter to every country and government. Therefore, encouraging Public Private Partnership on infrastructure projects ultimately influences growth and development. It is clear that Public Private Partnership being a great concern to governments and countries, the Public Private Partnership component of implementing projects cannot be relegated.

5.4 Recommendations

Based on the findings the following recommendations are provided;

The study found that employees on the Takoradi Harbour expansion project have good understanding of project management. Therefore, it is recommended that employers

(government) and construction firms employ professionals with good knowledge in project management to execute PPP projects.

It is recommended strongly that project team members or employees must be given the required project management orientation in order to help teams to perform. The orientation will review how employees especially project teams should go about executing their jobs.

Government should design a legal framework purely covering tax exemption on all public private partnership projects in the country.

The public procurement authority must routinely organize Public Private Partnership education and sectional training for government staff and other important organization who matter in initiation, implementation, through to the evaluation of Public Private Partnership at all levels within Public Private Partnership with zero personal, political influence and interference.

5.5 Future Research Recommendations

The following future research recommendations are provided;

Future researchers can examine the other project management implementation challenges of public private partnership projects in Ghana and how this affect economic growth and development.

Future researchers can explore the implementation strategies of public private partnership project and how these contribute to the challenges and efficiency of project team performance.

REFERENCES

- A Vining, A. Boardman and F. Poschmann (2005) “Public-Private Partnerships in the U.S. and Canada: There Are No ‘Free Lunches,’” *Journal of Comparative Policy Analysis* 7, 3): 199-220.
- A. Boardman and A. Vining, (2010) “Assessing the Economic Worth of Public-Private Partnerships,” in *International Handbook on Public-Private Partnerships*, ed. G. Hodge, C. Greve and A. Boardman (Cheltenham, U.K.: Edward Elgar, 159-186.
- Auditor General of British Columbia (2014). Summary – Financial Statements and the Auditor General’s Findings, October 2014.
- Auditor General of Ontario (2014). Annual Report, Chapter 3.05 Infrastructure Ontario – Alternative Financing and Procurement.
- Bernard HR. (2002). Research methods in anthropology: Qualitative and quantitative approaches. 3rd Alta Mira Press; Walnut Creek, CA: 2002.
- Boardman, A., Siemiatycki, M., & Vining, A. (2016). The theory and evidence concerning public-private partnerships in Canada and elsewhere. The School of Public Policy: SPP Research Papers, 9(12), 1–31. Accessed: November 1, 2016: www.policyschool.ca.
- Boers, I., Hoek, F., Monfort, C., & Wieles, J. (2013), Public-private partnerships: International Audit Findings. In Piet de Vries and Yehoue Etienne (eds.), *The Routledge Companion to Public–Private Partnerships* Routledge
- Creswell, J. W. (2011). Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research (4th Ed). New Delhi: Pearson Education Inc.
- Demirag, I., Khadaroo, I., Stapleton, P., & Stevenson, C. (2012). The diffusion of risks in public private partnership programmes. *Accounting, Auditing and Accountability Journal*, 25(8), 1317–1339

Economics 25th Anniversary Conference: Past, present & future [CD], University of Reading, Oxford, UK: Taylor & Francis

G. Hodge and C. Greve, ((2010) “Public-Private Partnerships: Governance Scheme or Language Game?” *Australian Journal of Public Administration* 69): S8-S22.

Garvin, M. J. (2007a, July 15-17). Are public-private partnerships effective as infrastructure development strategies? In W. Hughes (Ed.), *Proceedings of the Construction Management and*

Grimsey, D., & Lewis, M. (2004). Public private partnerships: The worldwide revolution in infrastructure provision and project finance. Cheltenham, UK: Edward Elgar Publishing Limited.

Ke Y, Wang S, Chan AP, Lam PT (2010) Preferred risk allocation in China’s public–private partnership (PPP) projects. *Int J Proj Manag* 28(5):482–492

Khadaroo, I. (2014). The valuation of risk transfer in UK school public private partnership contracts. *The British Accounting Review*, 46(2), 164–165.

Koppenjan, J. (2005). The formation of public private partnerships: Lessons from nine transport infrastructure projects in the Netherlands. *Public Administration*, 83(1), 135–157.

Kwak, Y. H., Chih, Y., & Ibbs, C. W. (2009). Towards a comprehensive understanding of public private partnerships for infrastructure development. *California Management Review*, 51(2), 51–78.

Ministry of Finance and Economic Planning (2011) National policy on public – private partnerships, Ghana

Osei-Kyei R, Chan APC (2015) Developing transport infrastructure in Sub-Saharan Africa through

Osei-Kyei R, Chan APC (2016) Implementing public–private partnership (PPP) policy for public construction projects in Ghana: critical success factors and policy

implications. Int J Constr Manag. <https://doi.org/10.1080/15623599.2016.1207865>

- Osei-Kyei R, Chan APC (2017a) Factors attracting private sector investments in public–private partnerships in developing countries: a survey of international experts. J Financ Manag Prop Constr 22(1):92–111. <https://doi.org/10.1108/JFMPC-06-2016-0026>
- Osei-Kyei R, Chan APC (2017b) Implementation constraints in public-private partnership: empirical comparison between developing and developed countries. J Facil Manag 15(1). doi:<https://doi.org/10.1108/JFM-07-2016-0032>
- Osei-Kyei R, Chan APC (2017c) Risk assessment in public-private partnership infrastructure projects: empirical comparison between Ghana and Hong Kong. Constr Innov Inf Process Manag 17(2). doi: <https://doi.org/10.1108/CI-08-2016-0043>
- Osei-Kyei R, Dansoh A, Ofori-Kuragu JK (2014) Reasons for adopting public–private partnership (PPP) for construction projects in Ghana. Int J Constr Manag 14(4):227–238. doi: 10.1080/15623599.2014.967925
- Pallister J, Law J (2006) A dictionary of business and management. Oxford University Press, Oxford
- Pollit C., Bouckeaert G. (2004). Public Management reform: A Comparative Analysis, Oxford University Press
- public–private partnerships: policy practice and implications. Transport Reviews, 36(2):170–186. doi: 10.1080/01441647.2015.1077288
- R. Geddes and B.L. Wagner, (2013) “Why do U.S. states adopt public–private partnership enabling legislation?” *Journal of Urban Economics* 78): 30-41.
- Shaoul, J. (2005). A critical financial analysis of the private finance initiative: Selecting a financing method for allocating economic wealth? *Critical Perspectives on Accounting*, 16(4), 441–471.

- Shaoul, J., Stafford, A., & Stapleton, P. (2012). Accountability and corporate governance of public private partnerships. *Critical Perspectives on Accounting*, 23 (3), 213–229.
- Soomro, M. A., & Zhang, X. (2015). Roles of private-sector partners in transportation public-private partnerships failures. *Journal of Management in Engineering*, 31(4), 1–12
- Soomro, M. A., & Zhang, X. (2016). Evaluation of the functions of public sector partners in transportation public-private partnerships failures. *Journal of Management in Engineering*, 32(1), 1–11.
- Spradley JP. (1979). *The ethnographic interview*. Holt, Rinehart & Winston; New York: 1979.
- World Bank. (2009). *Attracting investors to African public private partnerships: A project*
- Zhang, X. (2005). Financial viability analysis and capital structure optimization in privatized public infrastructure projects. *Journal of Construction Engineering and Management*, 131(6), 656–668.

APPENDIX

QUESTIONNAIRE

My name is **Kumordzie, Winfred**. I am a final year MSC Project Management student from Department of Construction Technology and Management at Kwame Nkrumah University of Science and Technology, Kumasi. As part of the requirement for the master's degree, I am conducting a research on the topic: **Exploring the Challenges of P3 on infrastructure Projects in Ghana: A case study at Takoradi Harbour Expansion project**.

The objectives of the study include:

1. To identify project implementation challenges of P3 projects in Ghana.
2. Evaluate the challenges from the perspective project management team.
3. To suggest solutions to cure the P3 projects implementation challenges.

The implication of the findings is for the future implementation and development of PPP in Ghana and other countries. Information given will be treated with utmost confidentiality.

Thank you for your participation and assistance with this study.

**SECTION A: CONCEPTUAL UNDERSTANDING OF PROJECT
MANAGEMENT**

1. Please, give a brief definition to the following terms:

a. Project

b. Project Management

c. Public Private Partnership

2. Is the project you are working on Public Private Partnership?

[] Yes

[] No

3. If yes, please give a brief overview of the project.

4. Please, do you know the number of years the project will take?

[] Yes

[] No

5. If yes, when did the project start? _____

On a scale of 1 to 4, how will you rate perspective of project management team, indicate by ticking (√)

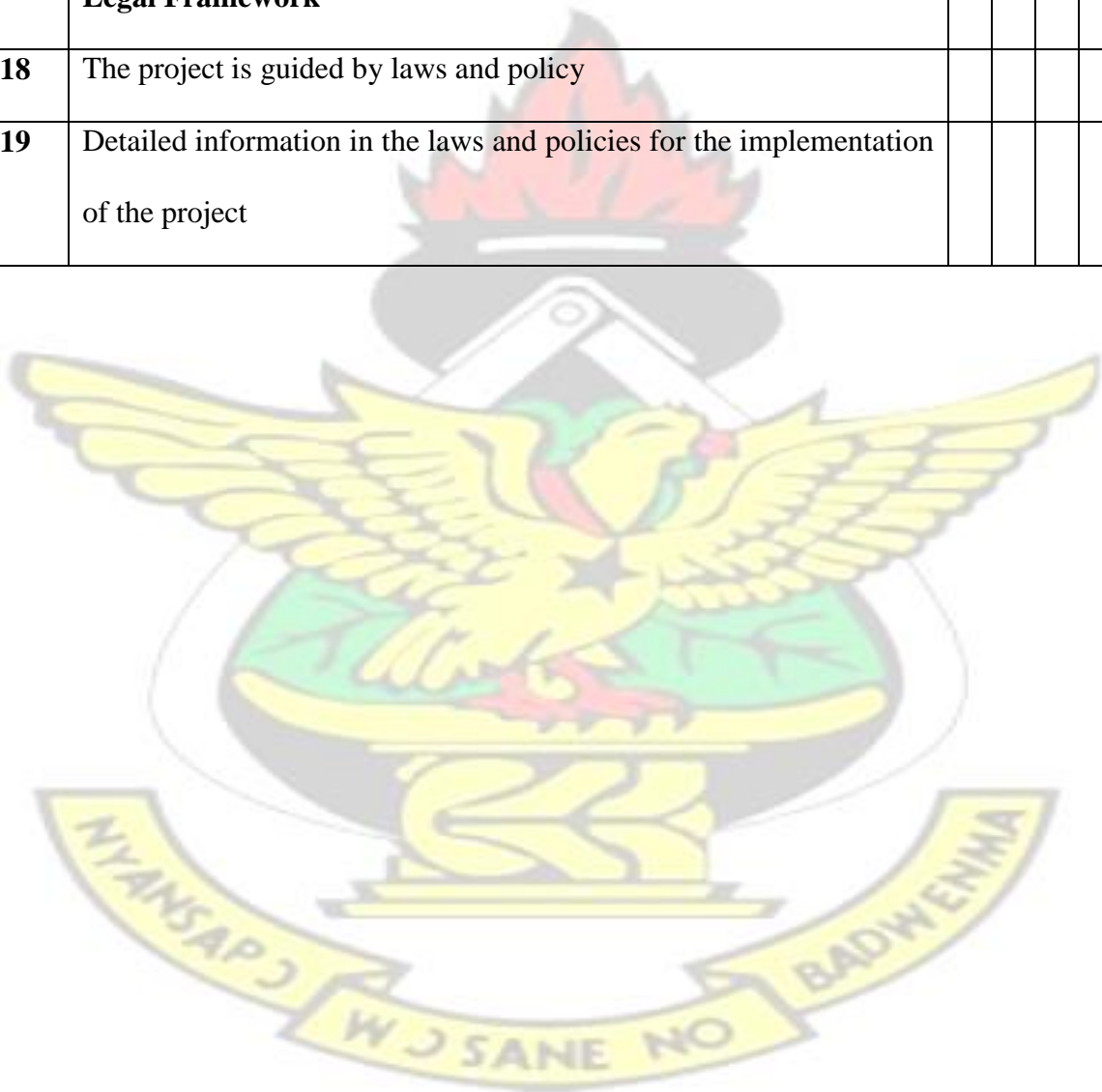
1
2
3
4

Strongly Disagree
Disagree
Agree
Strongly

Agree

Que No	Conceptual understanding of project mgt.	1	2	3	4
	Project Identification				
6	Selected project has strong socio-economic benefits				
7	Selected project has strong technical benefits				
8	Selected project has well-structured infrastructure plan				
	Stakeholder Engagement				
9	Local commuters, trade unions, civil society groups are engaged in discourse from the beginning of the project				
10	Community meetings are used at the project initiation				
11	Press conference are held to engage the general public				
	Risk Allocation				
12	There is comprehensive and updated risk register				
13	There is proper identification of project risk				
14	There is efficient allocation of risk to the best party				

15	There is balanced risk sharing				
	Competition and Transparency				
16	There is value for money as a result of competition				
17	There is clear and available contract information				
	Legal Framework				
18	The project is guided by laws and policy				
19	Detailed information in the laws and policies for the implementation of the project				



**SECTION B: PROJECT MANAGEMENT IMPLEMENTATION CHALLENGES
OF PUBLIC PRIVATE PARTNERSHIP.**

20. Is the project facing implementation challenges?

☐ Yes

☐ No

If yes, how would you rate the following implementation challenges? Indicate by ticking

(√)

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

Que No	Implementation Challenges	1	2	3	4
	Project Management Skills and Experience				
21	Highly experiences personnel are employed to manage the project				
22	Personnel employed have enough skills to handle the project				
	Transfer and Allocation of Risk				
23	Personnel fully understand risk sharing				
24	Proper identification of project risk				
25	Efficient allocation of risk				
	Proposals				
26	There are laws and regulations to guide unsolicited proposals				
27	Widespread corruption as a result of unsolicited proposals.				

**SECTION B1: PLEASE KINDLY LIST SOME OF THE CHALLENGES
DURING EXECUTION**

- 1.
- 2.
- 3.
- 4.
- 5.

KNUST



SECTION C: OUTCOME OF PUBLIC PRIVATE PARTNERSHIP PROJECT

28. The project has positive outcome

☐ Yes

☐ No

29. If yes, which of the following is/are the outcome (s) of the project

☐ Consumer benefit

☐ Private sector benefit

☐ Employee benefit

☐ Net government revenue

SECTION D: DEMOGRAPHY

30. Which of the following age category do you belong

☐ 25 – 30

☐ 31 – 36

☐ 37 and above

31. What is your gender

☐ Male

☐ Female

32. What is your education level?

☐ Junior High School Certificate

☐ Senior High School/O Level Certificate

☐ Professional Certificate

☐ Bachelor's Degree

☐ Master's Degree

33. Please, indicate your Professional Background

- ☐ Project Management Professional (PMP)
- ☐ Monitoring and Evaluation (M&E) Specialist
- ☐ Programmes Manager
- ☐ Portfolio Manager
- ☐ Project Manager

KNUST

34. Professional Qualification

- ☐ Fellow
- ☐ Associate Member
- ☐ Full Member

35. Please, indicate your Professional Experience

- ☐ Less than 10yrs
- ☐ 10 – 19yrs
- ☐ 20 and above





Picture showing curing process of precast blocks





Picture showing bolders to support the side of the keywall





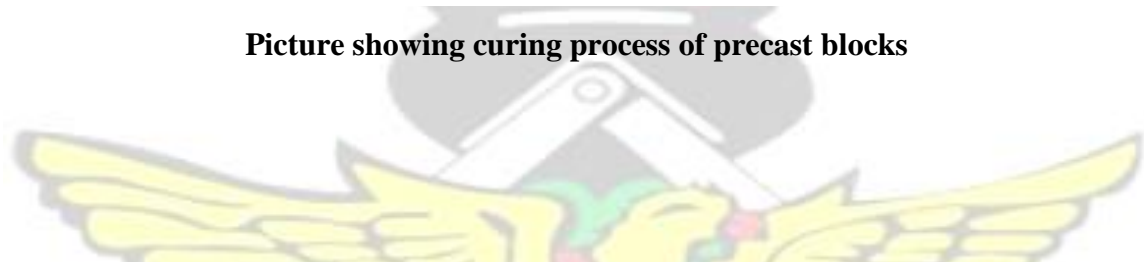
Picture showing placing and positioning bolder with excavator



Picture showing the loading of bolders



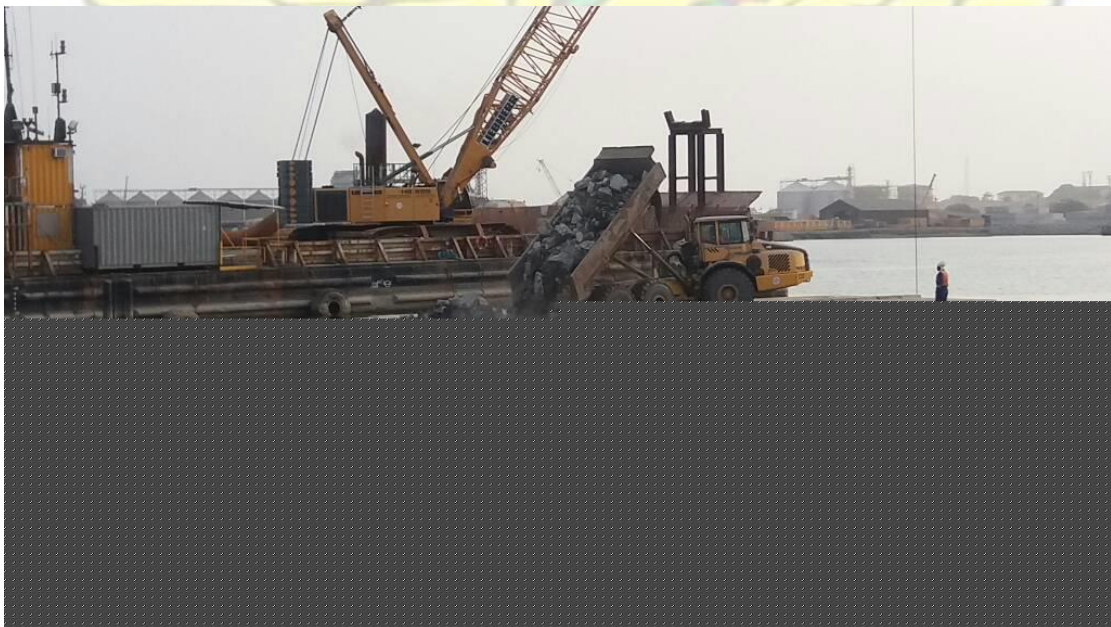
Picture showing curing process of precast blocks



Picture showing the spreading of bolder along the key wall



Picture showing placing of bolder and leveling with payloader



Picture showing placing of bolders



Picture showing using bolters to support side of key wall

