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KUMASI, GHANA



**PUBLIC-PRIVATE PARTNERSHIP IN SANITATION
INFRASTRUCTURE AND SERVICES PROVISION**

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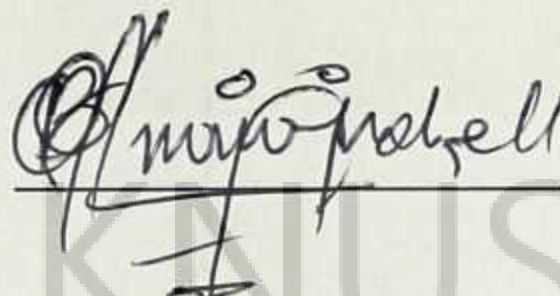
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CERTIFICATION

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

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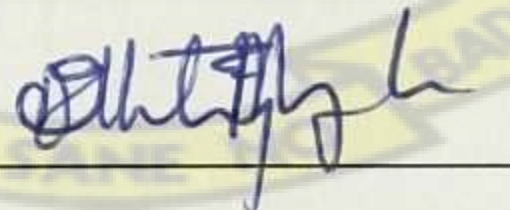

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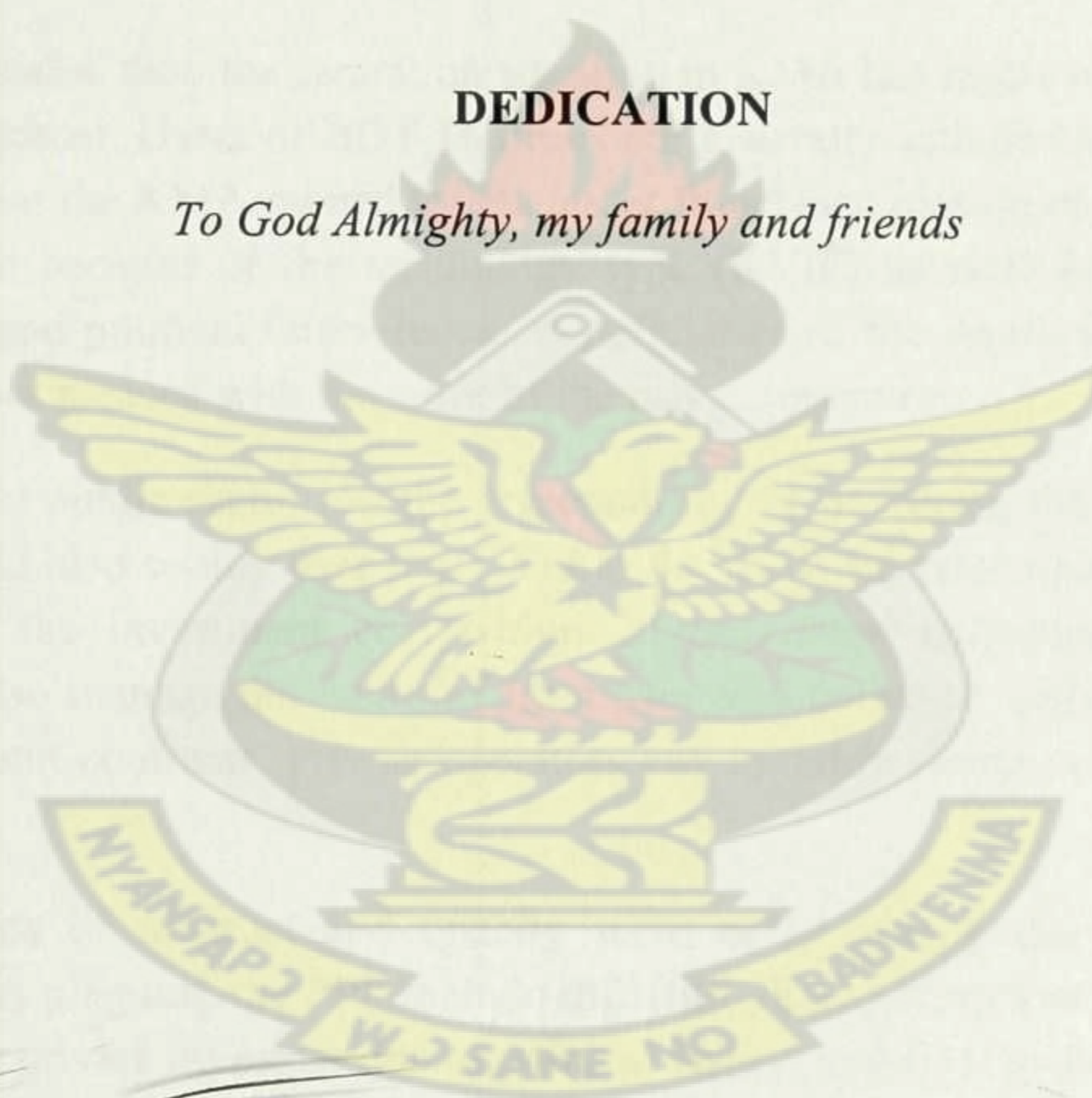
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DEDICATION

To God Almighty, my family and friends



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ABSTRACT

This study investigated the potentials of the private sector in the development and management of sanitation infrastructure and services within three Sub-metros (Asokwa, Oforikrom and Subin) in the Kumasi Metropolitan Assembly (KMA). The study examined the performance of Public-Private Partnership (PPP) based on perception of public toilet users; the roles of and relationship between the partners as well as the factors affecting the PPP in the provision of sanitation. The study covered Build-Operate-Transfer (BOT) toilets; KMA-owned Franchise managed toilets as well as Operation and maintenance of the Asafo sewerage system.

The study was based on in-depth interviews with the Assembly, private investors, operators and public toilet attendants, and surveys. The survey consisted of a total of 55 users of BOT Toilets, 15 users of KMA-owned Toilets from the three Sub-metros and 15 beneficiaries of the Asafo sewerage system.

The study revealed that, the sanitation situation in KMA has improved due to private sector involvement. Users of BOT facilities are generally satisfied with the services they receive but the KMA-owned toilets under franchised management are receiving low patronage because of the technology type (KVIP) as well as relatively poor management and political interference. Beneficiaries of the Asafo sewerage system are however not pleased with the work of the private operator.

In the PPP, the public sector has the responsibility of procuring the private investor or operator and also setting user fees. Within the BOT, investor finances the project and recovers the investment cost within 20 years from collection of user fees. Franchisees also manage the facilities from user fees collected within the Franchise and management contracts. Private operators pay monthly surtax or franchise fee to KMA.

Some instances of mistrust and opacity were noted among the partners. Some external factors plaguing the PPP include difficulty in acquiring loans from financial institutions by private investors due to political issues, technical problems with some of the facilities, political interference in the franchise contract and socio-cultural behaviour of the users.

It is recommended that the capacity of the private sector be increased to enhance more coverage of improved technologies within the Assembly. KMA must also monitor private operators and hold them more accountable to providing better sanitation services since users are willing to pay for better services.

TABLE OF CONTENTS

CERTIFICATION	iv
DEDICATION	v
ABSTRACT	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	xi
LIST OF FIGURES	xii
LIST OF PLATES	xiii
LIST OF ACRONYMS	xiv
ACKNOWLEDGEMENT	xvi
1 INTRODUCTION	1
1.1 Background	1
1.2 Problem Statement	2
1.3 Justification	3
1.4 Objectives	3
1.5 Research Questions	4
1.6 Scope of Research	4
1.7 Limitation of Study	5
1.8 Structure of Report	5
2 LITERATURE REVIEW	6
2.1 Public-Private Partnerships (PPP)	6
2.1.1 Definition of Public-Private Partnership (PPP)	6
2.1.2 The PPP argument	7
2.1.3 The Need for Partnerships in the sanitation sector	8
2.1.4 Contracting Arrangement	9
2.2 Frameworks for assessing Partnerships	10
2.2.1 Review of frameworks	10
2.2.2 How partnership outcome is measured by others	12
2.2.3 Assessing partnership in this study	13
2.3 Partnership forms in Sanitation in Ghana	14
2.3.1 Build-Operate-Transfer (BOT)	16
2.3.2 Rehabilitate-Operate-Transfer (ROT)	17
2.3.3 Build-Own-Operate (BOO)	17
2.3.4 Build-Own-Operate-Transfer (BOOT)	18
2.4 Constraints of PPPs in Sanitation	18
2.5 Policies and Regulations	18
2.6 Ghana Sanitation Infrastructure Plan	19
2.7 Sanitation Infrastructure	20
2.8 Types of Sanitation Technologies in Ghana	21
2.9 Role of organisations in the Sanitation Sector in Ghana	22
2.10 Legal Framework for Sanitation Sector in Ghana	25
2.11 Sanitation in Kumasi	25
2.11.1 Improved technologies	26

2.11.2	Types of Sanitation technologies	27
2.11.3	Faecal Sludge Collection.....	28
2.11.4	Transportation	28
2.11.5	Disposal.....	28
2.11.6	Treatment	29
2.12	Role of the Private Sector in Sanitation services delivery	29
2.13	Incentives for Private Sector Involvement in sanitation services delivery ..	29
3	OVERVIEW OF STUDY AREA AND METHODOLOGY	31
3.1	Profile of Kumasi	31
3.1.1	Location of Metro	31
3.1.2	Relief and drainage	31
3.1.3	Geology and soil	32
3.1.4	Climate	32
3.1.5	Demography.....	32
3.1.6	Economic Activities.....	33
3.1.7	Health care facilities.....	33
3.1.8	Educational Facilities	33
3.2	Research Methodology.....	34
3.2.1	Research Design/Approach.....	34
3.2.2	Criteria for selecting the study area	34
3.2.3	Problem definition and synopsis preparation.....	35
3.2.4	Review of relevant literature	36
3.2.5	Units of analysis, Key data categories and variables	36
3.2.6	Framework for assessing partnership.....	36
3.2.7	Data analysis and Reporting	38
3.2.8	Sampling methods.....	39
3.2.9	Data sources and collection instruments	40
3.2.10	Analytical methods for data processing	40
4	RESULTS AND DISCUSSION.....	41
4.1	Characteristics of Public toilet respondents	41
4.2	Sanitation Service Levels	42
4.2.1	BOT Toilet Service Levels	42
4.2.1.1	Number of BOT toilets within the Sub-metros under study.....	42
4.2.1.2	Why people use BOT toilets.....	43
4.2.1.3	Toilet Charges under BOT.....	44
4.2.1.4	Cleanliness of toilets under BOT.....	45
4.2.1.5	Odour levels of toilets under BOT.....	45
4.2.2	KMA-owned Toilet facilities service levels	45
4.2.2.1	Number of KMA-owned toilets under Franchise Management ...	45
4.2.3	Why people use toilets under Franchise Management.....	46
4.2.3.1	Franchise Managed Toilet Charges	47
4.2.3.2	Franchise Managed Toilet Cleanliness	48
4.2.3.3	Franchise Managed Toilet Odour	48
4.3	Key Findings on the sanitation service levels	48

4.4	Public-private partnership for public toilet Infrastructure (BOT)	50
4.4.1	Partners of BOT and their roles	50
4.4.2	Nature of BOT Contract.....	51
4.4.3	BOT Partnership relationship.....	52
4.4.3.1	Partnership transparency.....	52
4.4.3.2	Trust and Confidence.....	53
4.4.3.3	Accountability.....	54
4.4.3.4	Mutual Benefit	54
4.4.4	Factors affecting PPP in BOT	54
4.4.4.1	Political Issues	55
4.4.4.2	Socio-cultural issues	55
4.4.4.3	Financial/Tariff Issues	56
4.4.4.4	Technical issues	57
4.5	Public-private partnership for public toilet franchised management	58
4.5.1	Franchised Management Partners and their roles	58
4.5.2	Nature of Franchised Management contract	58
4.5.3	Franchised Management Partnership relationship	59
4.5.4	Factors affecting PPP in Franchised Management.....	61
4.6	Public-Private partnership for Sewerage Systems Operation & Maintenance	62
4.6.1	Sewerage System management Partners and their roles	62
4.6.2	Nature of Sewerage system management contract.....	63
4.6.3	Sewerage System management Partnership relationship	64
4.6.4	Factors affecting PPP in Sewerage System management	65
5	CONCLUSIONS AND RECOMMENDATIONS	67
5.1	Conclusion.....	67
5.2	Recommendations	68
6	REFERENCES	70
7	APPENDICES	75
7.1	APPENDIX 1 : LIST OF PLATES	75
7.2	Appendix 1(A) Methodology	75
7.3	Appendix 1(B)Asokwa Sub-metro	76
7.4	Appendix 1(C) Oforikrom Sub-metro	77
7.5	Appendix 1(D) Subin Sub-metro	78
7.6	Appendix 1(E) KMA Toilets.....	79
7.7	APPENDIX 2: DATA COLLECTION TOOLS	80
7.8	2A. Interview Guide for KMA, Sub- Metros and Private companies (owners of facilities).....	80
7.9	2B. Supervisors/Attendants of public latrines	82
7.10	2C. Public Toilet Facility User Questionnaire	84
7.11	2D. Interview Guide for users of the sewerage system.	86
7.12	APPENDIX 3 : SAMPLE FRANCHISE AGREEMENT	87
7.13	APPENDIX 4 : REQUEST FOR APPROVAL TO IMPLEMENT PAYMENT OF SEWERAGE MAINTENANCE FEES BY BENEFICIARIES ..	93

7.14	APPENDIX 5 : SAMPLE CONTRACT AGREEMENT FOR OPERATION AND MAINTENANCE OF SEWERAGE SYSTEM	95
7.15	APPENDIX 6 : SAMPLE LABORATORY ANALYSIS RESULTS FOR ASAFO WASTE STABILIZATION POND	96

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LIST OF TABLES

Table 2-1 Allocation of key responsibilities under the various options for private sector participation.....	10
Table 2-2 components of partnership arrangement.....	11
Table 2-3 framework for assessing partnership in this study.....	14
Table 2-4 Common types of providers and services, for a range of sanitation services.	15
Table 2-5 Options for Construction/Rehabilitation of Facilities.....	16
Table 3-1 Analytical Framework for Qualitative Data Analysis	38
Table 3-2 Public toilet facilities within the three Sub-metros	39
Table 3-3 Sample sizes of Respondents.....	39
Table 4-1 Summary of age distribution and sex of respondents of public toilet user survey	41
Table 4-2 Partners of BOT and Their Roles	50
Table 4-3 Summary of Nature of BOT Contract	51
Table 4-4 Summary of BOT Partnership Relationship	52
Table 4-5 Factors affecting BOT	55
Table 4-6 Franchised Management Partners and Their Roles	58
Table 4-7 Summary of Nature of Franchise Management Contract.....	59
Table 4-8 Franchised Management Partnership Relationship	60
Table 4-9 Factors affecting Public Toilet Franchised Management	61
Table 4-10 Sewerage system management Partners and Their Roles	62
Table 4-11 Summary of Nature of Contract	63
Table 4-12 Sewerage system management Partnership Relationship.....	64
Table 4-13 Factors affecting Sewerage systems management.....	65



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KUMASI

LIST OF FIGURES

Figure 1-1 Scope of Research 5

Figure 2-1 Framework for assessing partnership proposed by Gentry and Fernandez (1997) 12

Figure 3-1 Sub-metro areas in KMA 35

Figure 3-2 Conceptual framework for assessing Partnership in this study 37

Figure 4-1 Number of Respondents served by public toilets 42

Figure 4-2 Number of BOT facilities within the study areas 43

Figure 4-3 Users' reasons for choosing toilets under BOT 44

Figure 4-4 User perception about toilet facilities under BOT 45

Figure 4-5 Number of KMA toilets within the study area 46

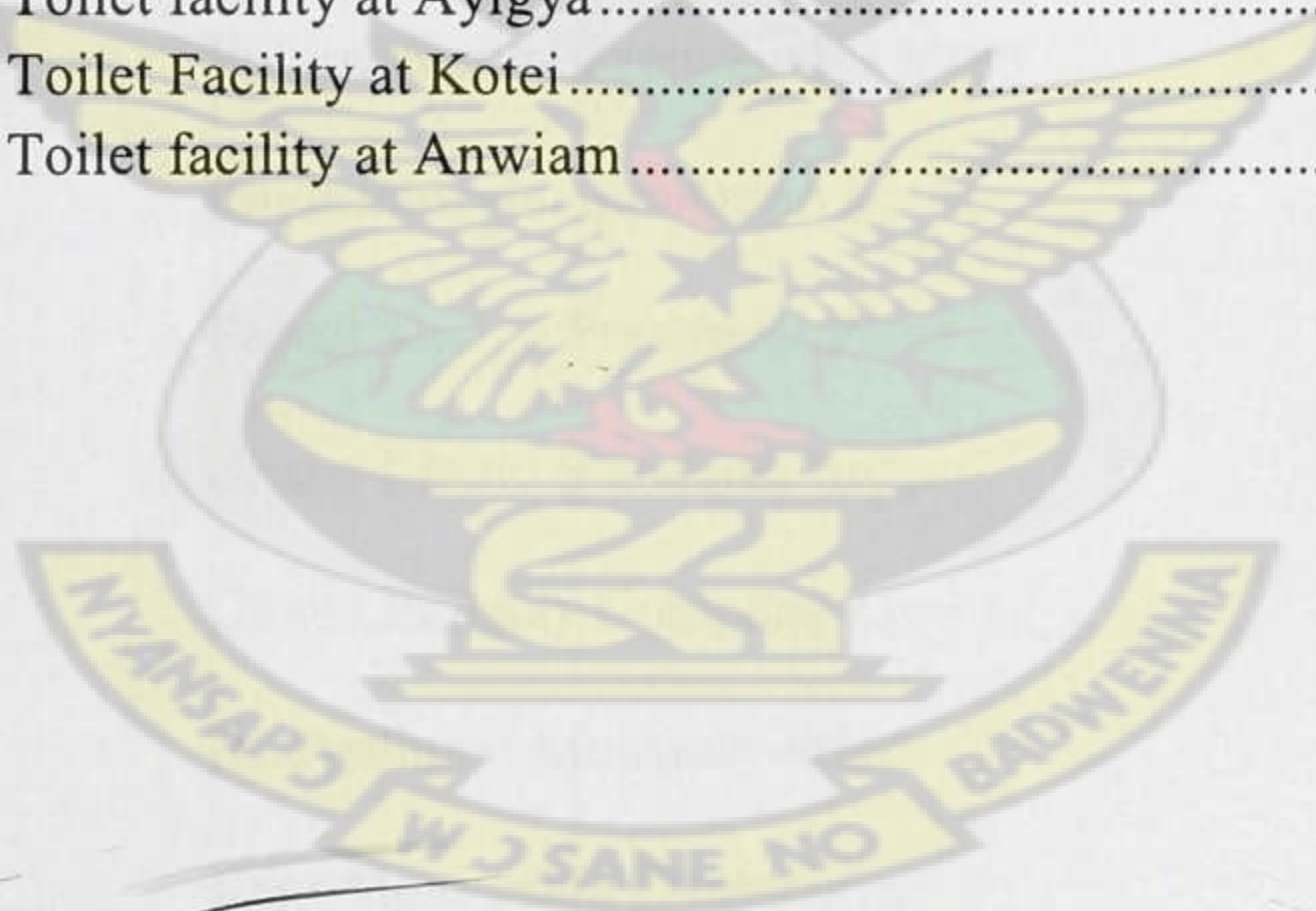
Figure 4-6 Users' reasons for choosing KMA-owned Toilets under franchise management 47

Figure 4-7 User perception about facilities under Franchise management 48



LIST OF PLATES

Plate 1 Franchise managed septic tank latrine at Kotei.....	49
Plate 2 Septic tank latrine by BOT at Anwiam	49
Plate 3 KVIP by franchise management at Anwiam.....	49
Plate 4 interview with Kotei Toilet Supervisor.....	75
Plate 5 Interview with Ayeduase Market Toilet Supervisor	75
Plate 6 Interview with Ayigya toilet Supervisor	75
Plate 7 Interview with Atonsu Toilet Supervisor.....	75
Plate 8 Interview with Amakom Market Toilet Supervisor	75
Plate 9 BOT Toilet Facility User interview	75
Plate 10 KMA Toilet Facility user interview	75
Plate 11 Interview with Amakom Toilet Supervisor.....	75
Plate 12 BOT Toilet facility User Interview	75
Plate 13 BOT Toilet Facility at Atonsu.....	76
Plate 14 BOT Toilet Facility at Atonsu Pentecost	76
Plate 15 BOT Toilet Facility at Ayeduase market	77
Plate 16 BOT Toilet facility at Anloga main	77
Plate 17 BOT Toilet facility at Amoakom Market.....	78
Plate 18 BOT Toilet facility at Asafo labour	78
Plate 19 BOT Toilet Facility at Roman Hill	78
Plate 20 KMA Toilet facility at Ayigya.....	79
Plate 21 KMA Toilet Facility at Kotei.....	79
Plate 22 KMA Toilet facility at Anwiam.....	79



LIST OF ACRONYMS

AfDB	African Development Bank
BOO	Build-Own-Operate
BOOT	Build-Own-Operate-Transfer
BOT	Build -Operate-Transfer
CBO	Community-Based Organisation
CSO	Civil Society Organisation
CWSA	Community Water and Sanitation Agency
DANIDA	Danish International Development Agency
EC	European Commission
ECA	Economic Commission for Africa
EHU	Environmental Health Unit
EPA	Environmental Protection Agency
ESP	Environmental Sanitation Policy
FSTP	Faecal Sludge Treatment Plant
GLSS	Ghana Living Standards Survey
GRCL	Ghana Railway Company Limited
IMF	International Monetary Fund
JMP	Joint Monitoring Programme
KATH	Komfo Anokye Teaching Hospital
KMA	Kumasi Metropolitan Assembly
KNUST	Kwame Nkrumah University of Science and Technology
KVIP	Kumasi Ventilated Improved Pit
MCE	Metropolitan Chief Executive

MDG	Millennium Development Goals
MEST	Ministry of Environment, Science and Technology
MLGRD	Ministry of Local Government and Rural Development
MMDAs	Metropolitan, Municipal, District Assemblies
MoE	Ministry of Education
NEPAD	The New Partnership for Africa's Development
NESSAP	National Environmental Sanitation Strategy and Action Plan
NGO	Non-Governmental Organisation
O&M	Operation and Maintenance
OECD	Organization for Economic Cooperation and Development
PPP	Public-Private Partnership
ROT	Rehabilitate-Operate-Transfer
STC	State Transport Corporation
UNICEF	United Nations International Children's Emergency Fund
VIP	Ventilated Improved Pit
WC	Water Closet
WELL	Water and Environmental health at London and Loughborough
WHO	World Health Organisation
WMD	Waste Management Department
WSRS	Water Sector Restructuring Secretariat

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1 INTRODUCTION

1.1 Background

Sanitation is a key sector where much effort is needed; with over 2.6 billion of the world's population lacking basic sanitation (NEPAD-OECD, 2007). Halving the proportion of people without access to sanitation by 2015 (MDG, Target 7c) would require investments of some 30 billion USD per year, which is twice the current spending levels (NEPAD-OECD, 2007). To meet these tremendous needs, many countries have sought the involvement of the private sector.

A report by WHO/UNICEF Joint Monitoring Programme (WHO/UNICEF, 2010) describes the sanitation situation in Ghana as 13% of the total population having access to improved sanitation and 87%, unimproved sanitation.

Provision of water and sanitation, health and educational services are important as a means to achieving the broader goals of poverty reduction and economic growth. The "service" perspective on these key sector areas has led sector practitioners away from the approach which focus on asset creation and maintenance towards the building of service delivery systems that provide continuous reliable and affordable service. In Ghana the trend in these three sectors has been towards a decentralised, multi-sectoral, demand-driven and private-sector oriented service delivery (WELL, 2003).

The provision of adequate sanitation facilities in urban areas is an important investment which safeguards health and well-being of the people living in cities, as well as protection of the environment. The world is far from meeting the sanitation target with almost half the population of developing regions and some 2.6 billion people globally not using an improved form of sanitation in 2008 (UN, 2011).

Currently the sanitation coverage in Ghana (12.4%) fall short of the country's set target (53%) in attaining the MDGs. The increase for improved sanitation has however not been substantial to meet the rapidly growing demand of most cities in developing countries.

In Kumasi sanitation coverage is clearly inadequate: 38% of Kumasi's population relies on public toilets, over three-quarters of the population rely on shared toilet facilities, and tens of thousands of urban residents rely on open defecation (Thrift, 2007). At 2000 only 49% of Kumasi's population had access to improved sanitation but decreased to 44% in 2008 (Maoulidi, 2010). The sanitation coverage needs to increase from 44% in 2008 to 75% in 2015 to help Kumasi city in attaining its sanitation target. The public sector only, in most developing countries has often not been efficient in providing access to reliable sanitation services. This has called many several governments in developing countries to involve the private sector. (Dima, 2004). This development therefore calls for concern on how the private operators are performing in their involvement in the sanitation services provision in achieving the MDGs target.

1.2 Problem Statement

Sanitation coverage in KMA is not adequate and the public sector alone has not been effective in meeting the sanitation target. However, there is a lack of understanding of the role of private sector in sanitation infrastructure and services delivery. Therefore there is the need to investigate the potentials of the private sector in the development and management of sanitation infrastructure and services in order to meet the demand for improved sanitation.

1.3 Justification

Even though the study is in Kumasi, the results are expected to contribute to other cities in developing countries, with the same characteristics. The findings of the study are important in the light of improving efforts to achieving the MDG target in sanitation. Also the research will provide understanding on the PPP in sanitation services with developing countries. A good understanding of the case study will help improve further management contracts involved with the private sector.

The relevance of this research is to inform policy makers in making decisions in the sanitation service provision. The study will also help identify whether the ongoing partnership formed with the private sector is producing the intended results; whether there has been improved service delivery and partnership relationship; which good aspects can be used to improve sanitation provision; what the challenges are, etc.

1.4 Objectives

The overall research goal of this study is to investigate the potentials of the private sector in the development and management of sanitation infrastructure and services.

The specific objectives are:

- To assess service levels of services delivered by Public-Private Partnership
- Assess the roles of partners and the nature of the Public-Private Partnership in sanitation service provision.
- Identify the factors that affect PPP in sanitation service delivery.

1.5 Research Questions

The primary research question is *“how do the public and private sectors relate/interact to provide improved sanitation for the people of Kumasi towards meeting the MDG?”*

To aid in answering the primary research question, several key questions not limited to those enumerated here were answered:

- . What institutions or bodies are involved in sanitation services and infrastructure provision?
- . What is the nature of the contract agreement within the PPP?
- . What is the relationship between partners?
- . How has PPP contributed to improved sanitation?
- . What are the factors that affect PPP in the sanitation sector?

1.6 Scope of Research

For the purposes of this study, sanitation is taken as the effective and safe management and disposal of human excreta (WELL, 2006).

The research focused on sanitation in Kumasi Metropolitan Assembly. Kumasi was taken as a case study because among the two main cities in Ghana it is the one with the worse sanitation coverage. Also the researcher is very familiar with the area and the language of the local people. The study focused on the public toilet facilities and sewerage systems. In terms of infrastructure, the study focused on the construction of toilet structures while the services covered operation and maintenance of sewerage system and public toilet facilities.

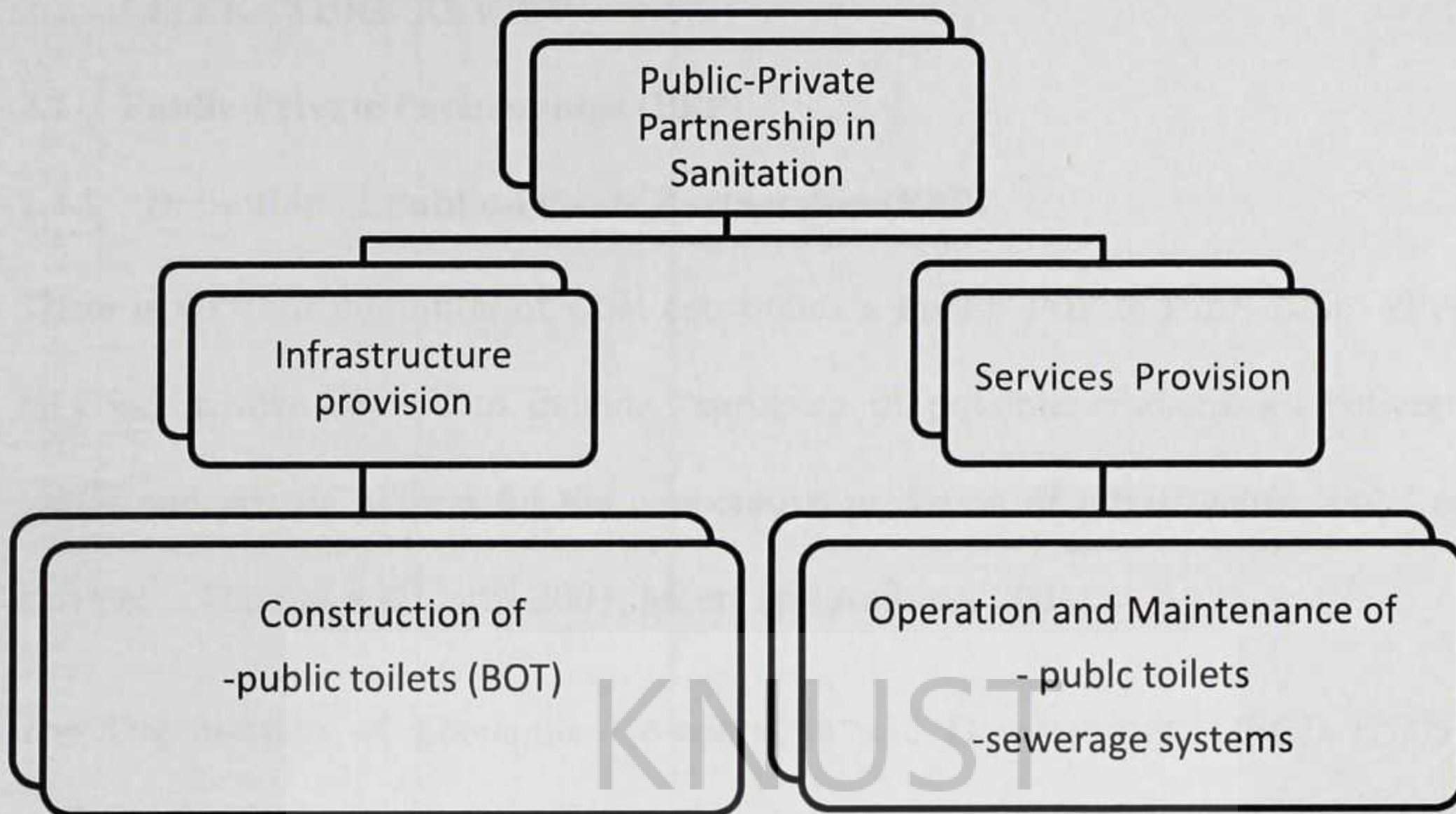


Figure 1-1 Scope of Research

1.7 Limitation of Study

Major limitations to the study encountered were difficulty in locating the facilities, unwillingness of facility owners/operators and users to give out relevant information, unavailability of key informants such as owners of the facilities. Some respondents were also not too willing to answer some of the questions.

1.8 Structure of Report

The report on this study has been put into six chapters. Chapter One, the introduction, contains the general overview, problem statement, research questions, research objectives, scope, justification and the organization of the study. Chapter Two discusses the concepts and issues in Partnerships and sanitation service delivery as well as the Sanitation situation in Ghana. Chapter three is centred on the profile of the study area and methodology. Chapter four focuses on the discussions and analysis of the data collected, while the final chapter, five, contains the conclusions and recommendations drawn from the study.

2 LITERATURE REVIEW

2.1 Public-Private Partnerships (PPP)

2.1.1 Definition of Public-Private Partnership (PPP)

There is no clear definition of what constitutes a Public-Private Partnership. PPPs may be broadly defined to include “spectrum of possible relationships between public and private players for the cooperative provision of infrastructure and / or services” (Thomas and Curtis 2003; Meera and Andreas, 2004).

The Organisation of Economic Co-operation and Development, OECD (2008) defines a Public Private Partnership as an agreement between the government and one or more private partners (which include the operators and the financiers) according to which the private partners deliver the service in such a manner that the service delivery objectives of the government are aligned with the profit objectives of the private partners and where the effectiveness of the alignment depends on a sufficient transfer of risk to the private partners.

According to the International monetary Fund (IMF), Public Private Partnerships refer to arrangements where the private sector supplies infrastructure assets and services that traditionally have been provided by government (IMF, 2006).

For the European Commission (EC, 2004), the term PPP is not defined at the community level. In general, the term refers to forms of co-operation between public authorities and the world of business which aim to ensure the funding, construction, renovation, management and maintenance of an infrastructure for the provision of service.

Standard and Poor's (2005) also defines PPP as any medium- to long-term relationship between the public and private sectors, involving the sharing of risks

and rewards of multi-sector skills, plus expertise and finance to deliver desired policy outcomes.

For the purpose of this research, PPP will be defined as the combination of a public need with private capability and resources to create a market opportunity through which the public need is met and a profit is made.

2.1.2 The PPP argument

Adams *et al.*, (2006) noted that the key argument for the use of PPP is that it reduces the burden on taxpayers in the delivery of both capital and long-term service contracts by the introduction of private capital, private expertise and competitive business practices to the provision of public services. A more fundamental argument is that the private sector is better able to provide services to a higher level of efficiency and effectiveness than the public sector which is typically hindered by its bureaucratic, mechanistic and politicised method of operation.

The key arguments mobilised to promote private sector participation in the sanitation sector in low- and middle-income nations were state inefficiency in the management of services, the need to renovate old, poorly maintained and technologically obsolete infrastructure, private companies' ability to obtain finance through international loans, the size of state utilities (used as justification for monopoly control based on economies of scale), as well as the prevalence of questionable deals, corruption, lack of transparency and overstaffing (Hardoy *et al.*, 2005). For example, a diagnostic survey of governance and anticorruption in Honduras undertaken by the World Bank Institute (2002) indicated that corruption is common in public utilities, including those in the sanitation sector. The same survey also shows that corruption is common in public sector procurement. More than one-third of private sector firms interviewed

believed that corruption was frequent in public procurement and estimated that the bribes were around 12 percent of the contract value (González de Así *et al.*, 2009). Another typical example is in 1989, the Kumasi Metropolitan Assembly began experimenting with public-private partnerships for the management of public toilets. The franchising was deemed successful, and in 1992, all public toilets were to be franchised. Unfortunately, some contracts ended up in the hands of Assembly Members who either had good connections with the sub-metropolitan district offices, or who received contracts from the then Metropolitan Chief Executive (MCE) in return for political support. Contracts were to be given to “registered local companies with demonstrated capacity” (Ayee and Crook, 2003). By the time of the national elections in 2000 “most of the toilet management contracts were in the hands of Assembly Members”. After the elections, when new Assembly Members came to power, struggles broke out over control of public toilet facilities. Similar conflicts occurred in Accra, resulting in shots being fired at a New Patriotic Party supporter who received a contract to manage a public toilet in La Township. Though tensions have subsided in recent years, public toilets remain a sensitive issue, and though there is considerable interest from the private sector in public toilets, few are willing to invest because of the risk that their facilities might be “hijacked” (Thrift, 2007).

2.1.3 The Need for Partnerships in the sanitation sector

In recent years there has been increasing recognition of the importance of sanitation not only for its direct impacts upon health, but also for its contribution to improved living environment, human dignity, improved education outcomes and to poverty reduction. In 2002 at the world Summit on Sustainable development in Johannesburg, international delegates acknowledged that it was not possible to

reduce poverty without improved access to basic sanitation (Meera & Andreas, 2004). This led to sanitation being included into the Millennium Development Goals (MDGs) and world leaders pledged their commitment to “halve the proportion of people without access to basic sanitation by 2015”. Sanitation is also an important component of the target to ‘achieve significant improvement in the lives of at least 100 million slum-dwellers by 2020’. Besides these direct sanitation related targets, improved sanitation also contributes to most other MDG targets, particularly for health, education and environmental sustainability. Partnerships can therefore be an approach to solving development problems through a coordinated and concerted effort between government and non-government actors, including companies and civil society, leveraging the resources, expertise, or market efforts to achieve greater impact and sustainability in development outcomes.

2.1.4 Contracting Arrangement

Private sector participation is a general term that encompasses a wide variety of options, each with different levels of responsibility and risk assumed by the private sector operator (Hardoy *et al.*, 2005).

The Chinese have classified Public- Private Partnerships (PPPs) into three generic types namely; outsourcing, concession and divestiture (Adams *et al.*, 2004). The contractual arrangements range from service contracts, management contracts, leases, operations and maintenance concessions, capital investments to divestiture and asset ownership, through which variable levels of partnership are established to improve levels of efficiency, effectiveness, responsiveness and adequacy of public services (ECA, 2005). These collaborations can be with small-scale independent providers, nongovernmental organizations (NGOs) or the private sector. In most

cases, the arrangements are service or sector specific. Table 2-1 illustrates the different PPP options for water and sanitation provision.

Table 2-1 Allocation of key responsibilities under the various options for private sector participation

Option	Asset ownership	Operations and Maintenance	Capital Investment	Commercial Risk	Duration
Service Contract	Public	Public and Private	Public	Public	1-2 years
Management Contract	Public	Private	Public	Public	3-5 years
Lease	Public	Private	Public	Shared	8-15 years
Concession	Public	Private	Private	Private	25-30 years
Build Operate Own Contracts (BOO) and other variants	Private and public	Private	Private	Private	20-30 years
Divesture	Private or private and public	Private	Private	Private	Indefinite (may be limited by license)

Source: World Bank, 1997. "Toolkits for Private Participation in Water and Sanitation".

2.2 Frameworks for assessing Partnerships

2.2.1 Review of frameworks

Many authors have tried to study partnerships in various sectors. While some assessed partnership based on the characteristics of the partnerships, others based their assessment on the performance or outcome of the partnerships.

With regards to how partners relate to work together, Pessoa (2007) defined PPP as a sustained collaborative effort between the public sector and the private sector to achieve a common objective while both players pursue their own individual interests. This implies that in a PPP each partner shares in the design, contributes a fraction of the financial, managerial and technical resources needed to execute , and sometimes

operate the project in accordance with each partners comparative advantage, and partially takes on the risk associated with the project and obtains the benefits, expected by each partner, which the project creates. So in order to fulfil the criterion of a partnership, there must be some ongoing *interaction*, *an agreement* on the objectives and methods as well as *division of labour* to achieve the goals.

Mcquaid (1994) stresses the importance of three components in this respect: the mandate, including the aims and objectives of the partnership arrangement; the arrangement within each partnership; and the various outcomes. The components of partnership arrangements from his work are summarised in the table below;

Table 2-2 Components of Partnership arrangement

Components of partnership	Examples
MANDATE	
Aims	Increasing sanitation coverage, improving sanitation services delivery
Range of activities	Expanding infrastructure, rehabilitation,
Scale of intervention	Community level,
ARRANGEMENTS	
Actors involved and excluded	Who does what, how and when
Nature of relationships	Formal or informal
Decision-making structure	Organizational structure
Division of tasks	Related to organizational structure
Inputs of various actors	What do different partners bring to the partnership
Financial arrangements	What financial resources are available to the partnership
Monitoring and evaluation	Review of progress made; lessons and replicability
OUTCOMES	What actual benefits(tangible or intangible); value added

Source: Adapted from Mcquaid R. W (1994) cited in Mwangi(2002)

Gentry and Fernandez (1997) stated that the different arrangements represent a continuum of allocations of risks and responsibilities between the public and private sectors. Their proposed framework is as illustrated below;

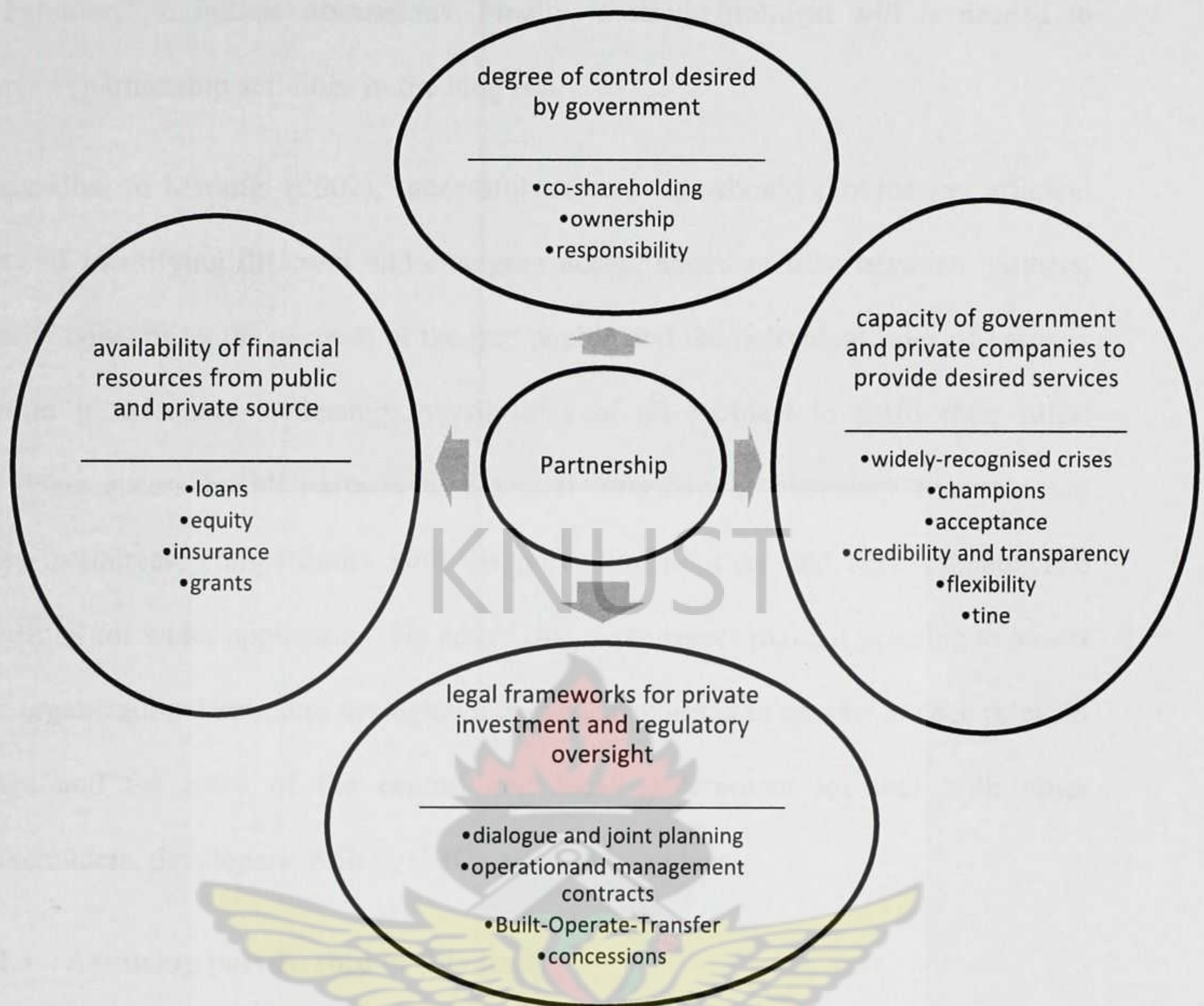


Figure 2-1 Framework for assessing partnership proposed by Gentry and Fernandez (1997)

2.2.2 How partnership outcome is measured by others

Some preconditions need to be fulfilled before a partnership can be effective. First, Mwangi (2002) cited that, there has to be a certain degree of mutuality of interest between the actors concerning the specific goal the partnership must pursue. Secondly, partnerships can only function if there is *trust* among the partners, as well as *mutual accountability* and *transparency* (Baud, 2000 cited in Mwangi (2002)). Thirdly, effective and able leadership is an important precondition for the functioning of any partnership arrangement. The existence of a crisis will not lead to actors coming together and undertaking activities to address the crisis if there is not a

“champion” to initiate discussions. Finally, a strong political will is needed to support partnership activities in the long run.

According to Mwangi (2002), successful partnerships should provide an efficient way of identifying different and changing needs; adequate trust between partners; clarity concerning the purpose of the partnership and the individual roles of partners within it; adequate leadership; possibilities of all partners to fulfil their roles; adequate access by all partners to essential information; necessary financial and other resources; compatibility with the prevailing political and legal climate; and potential for wider application. He added that these issues make it possible to assess the organizational structure through which a partnership is to operate at each relevant stage and the roles of the central and local government together with other stakeholders, developers, NGOs, CBOs and local residents.

2.2.3 Assessing partnership in this study

For the purpose of this study, a summary of all the various ways of assessing partnership is adopted as illustrated in Table 2-3.

Table 2-3 Framework for assessing partnership in this study

Components of partnership	Indicators
Characteristics of partnership	
Actors	Involvement of actors, increase in participation over time
Roles/ division of tasks	Who does what, how and when
Relationship between Partners	
Mutual benefit	Expanding infrastructure, rehabilitation, profit making/ cost recovery
Contract arrangement/agreement	What do different partners bring to the partnership,
Mutual trust	Level of trust and confidence
Transparency	Levels of accountability
Power relation	Who accounts to whom,
Financial arrangements	What financial resources are available to the partnership
Risk transfer	Investment risks, operational risks
OUTCOMES	What actual benefits(tangible or intangible); value added, performance(good, fair, poor); effectiveness in terms of improved service levels

Source: Mwangi (2002)

2.3 Partnership forms in Sanitation in Ghana

Scott and Sansom (2006) identified the types of private sanitation service providers and the services they undertake for different sanitation systems in the rural or urban context. The most common forms are summarised in Table 2-4;

Table 2-4 Common types of providers and services, for a range of sanitation services.

Sanitation systems	Urban Services
On-site Sanitation (private facilities)	Civil Society Organisations(CSOs): stimulate demand for improved sanitation using marketing techniques, in collaboration with the media and marketing agencies and in association with builders(as in the Sanitation Marketing Approach)
▪ Pit latrines and pour-flush with septic tank/soak-away	Small scale, informal private providers: often work in groups to dig and empty pits, construct latrine structures and desludge septic tanks, often with disposal into drains, sewers, wastewater treatment sites or the local environment
Public Facilities	
▪ Communal Toilet Blocks:	Private providers or CSOs, often contracted-in by the local authority, managing operation and maintenance of public toilets
Off-site sanitation	
▪ Sewerage System	Concession contracts to larger-scale private provider(through PPPs) usually for the provision of combined water and sewerage services Community-based CBOs responsible for operation, maintenance and repair of community-level components (e.g. connections or small collector sewers)

Source: WELL Task 2765, May 2006

Within PPP option in Ghana, there are four scenarios for undertaking construction of the public toilets (MLGRD, 2010), as shown in Table 2-5:

- Scenario A: Build-Operate-Transfer (BOT) Franchise Agreements
- Scenario B: Rehabilitate-Operate-Transfer (ROT) Franchise Agreements
- Scenario C: Build-Own-Operate (BOO) Franchise Agreements
- Scenario D: Build-Own-Operate-Transfer (BOOT) Franchise Agreements

Table 2-5 Options for Construction/Rehabilitation of Facilities

Option	Asset Ownership	Operation & Maintenance	Capital Investment	Commercial risk	Period
BOT	Public/Private	Private	Private	Private	15 – 25 Years
ROT	Public/Private	Private	Private	Private	5 – 10 years
BOO	Private	Private	Private	Private	Indefinite
BOOT	Public/Private	Private	Private	Private	15 – 25 Years

Source: MLGRD (2010). Guidelines for operation and maintenance of public toilets

2.3.1 Build-Operate-Transfer (BOT)

Under this arrangement the Assembly appoints a competent private company, selected by tender, to provide the finance needed, undertake construction to completion and carry out the operation and maintenance of the facility in accordance with terms of a Franchise Agreement to be entered into by the two parties. The contribution of the Assembly is in the provision of an appropriately zoned sanitary site, approved design and drawings of the facility and technical supervision. In view of the amount of investment involved, the duration of the Agreement should be long enough to enable the private company to recover its investment and make some reasonable return on it, as indicated in Table 2-6 above. When completed, the facility is jointly owned by the Assembly and the private investor. On expiry of the Agreement, ownership of the facility passes to the Assembly. The Agreement may then be renewed for operation and maintenance only, for shorter periods of 2-3 years, under any of the options for private management. This model is the preferred option, as the Assembly achieves its objective of providing facilities in the long term without actually committing any of its own funds.

2.3.2 Rehabilitate-Operate-Transfer (ROT)

Assemblies may undertake major rehabilitation or upgrading of sanitary facilities or infrastructure using the ROT mode, which is similar to the BOT arrangement. Under this scheme, therefore, care must be exercised to remove any encumbrances to the land. Joint ownership of the asset is applicable during the agreed period of amortisation of the private sector investment in rehabilitation. The advantages are as in the case of the BOT model. The agreement period may be of up to 5 years duration, depending on the extent of rehabilitation required. An operation and maintenance franchise may be granted for subsequent periods of 2-3 years, subject to satisfactory performance.

2.3.3 Build-Own-Operate (BOO)

This is a variation of Scenario A above, but with no transfer of assets on expiry of the Agreement, when they continue under private ownership. Subsequent operation and maintenance franchises may then be granted as above, allowing for the fact that the facility is still fully owned by the investor. The site must conform to the land use plan of the Assembly and may be private or public property, although in the latter case it is preferable for it to be ceded to the investor on a long lease. The Assembly may consider not charging any Building Permit fees, as these would in any case have to be deducted from the franchise fee. Operation and maintenance should be undertaken under the terms of the Franchise Agreement between the parties and the Guidelines for public toilet management. This approach is recommended where private property has been offered for developing a public facility. It has, however, the disadvantage of possible perpetuity of the franchise or litigation if the land is owned by a family and the title is not properly handled.

2.3.4 Build-Own-Operate-Transfer (BOOT)

This is a combination of the above three scenarios where the private company builds, owns, operates and after an agreed reasonable period of time with the Assembly, transfers the facility to the Assembly. This approach is recommended where the Assembly owns the sanitary site on which the toilet facility has been constructed.

2.4 Constraints of PPPs in Sanitation

Many of the key arguments in **section 2.1.2** that were originally used to justify bringing in the private sector, along with other factors that were not taken into consideration when concession contracts were drawn up, still persist, irrespective of whether the utility is publicly or privately operated. These include insecure land tenure , the politicization and corruption of service management, ineffective governance, the inability to incorporate other actors such as small-scale providers, limited or no renovation, and a lack of will and capacity on the part of the public sector to regulate service provision effectively (Hardoy *et al.*, 2005).

Hardoy *et al.*, (2005) also noted that the benefits of private sector participation depend on both the design and the content of the contract, and on the institutional mechanisms that the government has in place to ensure that the company complies with the contract. All the regulatory bodies generally suffer from the same problems, viz. lack of precise responsibilities, little or no real power, and co-option by the government and/or the private operator, all of which ultimately jeopardize the interests of the users.

2.5 Policies and Regulations

Pessoa (2007) noted that the changes in the last few decades in the provision of infrastructure and services call for strong and competent economic regulation, in

order to ensure that the interests of all parties are protected. Such protection is necessary first and foremost to defend the customers' interests but also those of the public and private parties to a contract. In Ghana, the national environmental sanitation policy was prepared in 1999, reprinted in 2001 and revised in 2007 by the Ministry of Local Government and Rural Development. Apart from this policy, there were also other sanitation-related policies in use by other agencies such as the Community Water Supply and Sanitation policy; Small Towns Water and Sanitation Policy and others; resulting in uncoordinated implementation of sanitation strategies/policies.

In order to achieve the Millennium Development Goal and Vision 2020, there is need to harmonise the sanitation policies in Ghana. As at 2004, the existing National Sanitation Policy was not being used to develop strategies, nor was it implemented effectively at the Regional and district (decentralised) levels (WaterAid, 2004). However, the National Environmental Sanitation Strategy and Action Plan (NESSAP) is a response to the need to refocus attention on environmental sanitation in Ghana and provide clear strategies and action plans that will guide implementation by Metropolitan, Municipal and District Assemblies (MMDAs). It is a logical following-up to the revision of the Environmental Sanitation Policy, ESP (1999) within the new framework of national planning that requires comprehensive sector policies and strategic plans and investment costs (NESSAP, 2010).

2.6 Ghana Sanitation Infrastructure Plan

As reported by Ghana Water Sector Restructuring Secretariat (WSRS) in 2005 the percentage of the population with access to improved toilet facilities was approximately 40 per cent in urban areas and 35 per cent in rural areas. To meet the Millennium Development Goals, sanitation coverage must be increased to

80 per cent (AfDB/OECD 2007, p.12). At the end of 2006, CWSA contributed about 10 percent to the national sanitation coverage (CWSA 2007, p.2).

In relation to defecation practices and toilet technologies (as cited in Awuah *et al.*, 2011) the National Environmental Sanitation Policy of Ghana Draft Final version (Ministry of Local Government Rural Development and Environment) outlines some key outputs of a sustainable environmental sanitation development of any Ghanaian town. These include:

- . All excreta are disposed of either in hygienic on-site disposal systems or by hygienic collection, treatment and off-site disposal systems;
- . All pan latrines are phased out by 2010;
- . At least 90% of the population has access to an acceptable domestic toilet and the remaining 10% has access to hygienic public toilets;
- . Hygienic public toilets are provided for the transient population in all areas of intense public activity (e.g. at markets and transport stations).

2.7 Sanitation Infrastructure

Many surveys divide urban Ghana into 'Accra' and 'other urban areas' (if they make a differentiation at all). Figures for spending by government, and by donors on sanitation in Ghana are designated likewise (often as either 'rural' or 'urban') (Thrift, 2007). To make matters more complicated, numbers for both spending and for coverage vary widely depending on the source. Even within the UNICEF/WHO Joint Monitoring Programme for Water Supply and Sanitation (JMP), data vary widely: the MDG mid-term assessment states that in 2002, 58 % of Ghanaians had access to improved sanitation (WHO/UNICEF, 2004). But, as a result of a change in the estimate in the percentage of people relying on shared

toilets, for 2004 the JMP estimates that only 18% of Ghanaians have access to improved sanitation (WHO/UNICEF, 2006). The differences in the numbers are substantial. According to the latest JMP data, somewhere around 27 % of urban Ghanaians have access to improved sanitation.

2.8 Types of Sanitation Technologies in Ghana

According to the Ministry of Local Government and Rural Development's Guidelines for provision, Operation and maintenance of public toilets (MLGRD, 2010), acceptable technologies can be grouped into two; dry and wet technologies and include the following:

(A) Water dependent (wet) technologies:

- . Aqua Privy
- . Pour Flush
- . WC connected to septic tank
- . WC connected to sewerage network

(B) Non-water dependent (dry) technologies:

- . Kumasi Ventilated Improved Pit latrine (KVIP)
- . Vault toilets
- . Urine diversion toilets

There are a number of other systems on the market. Some of them are basically Pre-fabricated versions of the generic types described above. They could be water-dependent or non water-dependent. Examples include:

- . Composting latrines
- . Biodigestion systems (biogas systems)
- . Chemical toilets
- . EcoSan toilets

According to the Environmental Sanitation Policy (ESP, 2010), the Multiple Indicator Cluster Survey (2006) indicated that sixty-one percent of the population is using improved variety of household latrines ranging from flush toilets connected to sewer or septic tanks, VIP latrines and pit latrines with slabs. It also reported a high percentage of usage of improved facilities in urban areas (about 83%) as against less than 45% for rural areas. Data from the draft report on 5th Round of Ghana Living Standards Survey (GLSS) gives coverage of 26.6% and 21.9% in 2006 for urban and rural areas respectively, while the Ghana Demographic and Health Survey (DHS, 2008) gave coverage of improved sanitation facilities of 11.3%. From baseline data gathered by District Environmental Health Directorates country-wide in 2007 and 2008, the proportion of households relying on an improved variety of household sanitation facility (WC, VIP, Aqua Privies, and KVIP) is estimated around 76%. Pan (Bucket) toilets although banned is still used by 7% of the population.

2.9 Role of organisations in the Sanitation Sector in Ghana

Various institutions in the country perform various functions in ensuring the provision of sanitation. The institutions and the functions they perform are discussed below.

Ministry of Local Government and Rural Development

The Ministry of Local Government and Rural Development is the lead agency in sanitation services delivery in the country. It is the co-ordinating Ministry that supervises District Assemblies. The Ministry is thus ultimately accountable for the state of national sanitation. The functions of this ministry include;

- . Coordination and formulation of environmental sanitation policy;
- . Developing and issuing technical guidelines on environmental sanitation services and their management;
- . Promulgation of national legislation and model bye-laws;
- . Direction and supervision of National Environmental Sanitation Policy Co- ordination Council;
- . Mobilization and negotiation for international funding for capital projects in the sanitation sector.

Metropolitan, Municipal and District Assemblies (MMDAs)

The MMDAs play important roles in promoting good sanitation in their areas. Their roles include the following;

- . Planning of programmes, plans and projects to respond to community needs;
- . Monitoring of projects and programmes to ensure their effectiveness
- . Provision of environmental sanitation services. These services can be provided directly or indirectly through private contractors or franchises
- . Undertake public education campaigns to raise the status of environmental sanitation, public awareness of the costs involved and the understanding of the need to pay for it.

Ministry of Environment, Science and Technology (MEST)

MEST is responsible for setting standards and guidelines for environmental quality.

The Environmental Protection Agency (EPA) is the regulatory agency for environmental quality and affluent standards.

The Department of Town and Country Planning is responsible for supporting the physical planning activities of the Assemblies, which has wide implications for environmental sanitation management.

Community Water and Sanitation Agency (CWSA)

The CWSA has a role in promoting sanitation and hygiene especially in rural communities and small towns. The CWSA promotes and collaborates with District Assemblies with respect to water-related sanitation. It facilitates the provision of water-related sanitation facilities. It provides technical support to the District Assemblies for the planning and execution of projects for disposing of faecal matter. In this role, CWSA collaborates with the Ministries of Education (MoE) and Local Government and Rural Development in creating (MLGRD) public awareness in school children and rural communities towards improving their sanitation practices and thereby reducing the health hazards associated with poor hygiene.

The role of *District Assemblies* in sanitation services delivery is spelt out in the section 10(3) of the Local Government Act 462, 1993. It is stated in the Act that the assembly shall initiate programmes for the development, improvement and management of human settlements and the environment in the districts. The legislative instrument, L.I 1400, which established the District in 1988, also prescribes the 84 functions of the assembly, among which include 2 sanitation related activities which are,

- . To establish, install, maintain and control public latrines, lavatories, urinals and wash places.
- . To establish, maintain and carry out services for the removal of night-soil from any building and for the dislodging and treatment of such night-soil.

2.10 Legal Framework for Sanitation Sector in Ghana

The role of a legal framework is to set objectives and procedures to be followed. Table 3-2 provides a summary of the various laws and policies governing the provision of sanitation services.

In an effort to address the problems in sanitation services delivery, government has over the years put in place adequate national policies and regulatory frameworks. These policies and regulatory frameworks, adopted from Atuahene (2010), include:

- . National Environmental Policy, 1991
- . Local Government Act, 1993 (Act 462)
- . Environmental Protection Agency Act, 1994 (Act 490)
- . Water Resources Commission Act, 1996 (Act 522)
- . National Building Regulations, 1996 (LI 1630)
- . Environmental Sanitation Policy, 1999
- . Environmental Assessment Regulations, 1999 (LI 1652)
- . Revised Environmental Sanitation Policy, 2007
- . KMA Bye-laws
- . Guidelines for provision, operation and maintenance of public toilets, 2010

2.11 Sanitation in Kumasi

From Colonial times until 1980s, sanitation in Kumasi was run by the municipal government. The city council built, operated and maintained public toilets, faecal sludge treatment sites, etc. No user fees were charged. Municipal staff was paid to collect faecal sludge from latrines (including bucket latrines) and bring it to the treatment sites. There were many problems: services were not extended to all areas

of town, the government sometimes built facilities without taking into account the ability/willingness of people to pay for connections, and infrastructure was not maintained (Thrift, 2007).

The central government experimented with public-private partnerships for public toilets and treatment sites in Kumasi, and the model was extended to all districts in Ghana during the 1990s. Conditions of public toilets improved considerably. Most residents in the Kumasi Metropolis (about 38%) still use public toilets for which they pay between 20p and 50p per visit depending on the type of facility. Another 25% use household water closet facilities. The unhygienic bucket latrine system caters for 12 per cent of the population, 8% rely on sewerage (Asafo, KATH, KNUST, Ahinsan and Chirapatre Housing Estates); whilst 10% use pit latrines (KVIP/Traditional) and 6% ease indiscriminately (www.ghanadistricts.com).

2.11.1 Improved technologies

Selection of a suitable technology depends on many factors, which must be analysed in each individual case. Some of the more important factors as prescribed by the MLGRD's Guidelines for provision, operation and maintenance of public toilets (MLGRD, 2010) include:

- . The location where the toilet is to be used (urban or rural, residential or commercial area, school, market or lorry park etc.);
- . The socio-economic circumstances of the target beneficiaries, including income levels, population density and culture, particularly as it relates to anal cleansing practices (washing or wiping, i.e. use of water vs. paper and other solid materials);
- . Beneficiaries' willingness and ability to pay the requisite user fees;

- . Land availability and ground conditions for the sanitary site, including the status of the site in zoning plans, land area, soil permeability and water table;
- . Availability of municipal infrastructure, including access roads, water supply, electricity, sewerage network, cesspit emptiers and waste treatment and disposal facilities;

2.11.2 Types of Sanitation technologies

A variety of sanitation technologies are used in Kumasi. Flush toilets appear to be used by a large portion of the population. According to Thrift (2007) only one quarter of all water closets (WCs), however, are connected to sewer systems (the remainder are connected to septic tanks), and many of these are shared (the figures include public toilets).

Thrift (2007) also noted that Pit latrines and Ventilated Improved Pit latrines (VIP latrines) as well as Kumasi Ventilated Improved Latrines (KVIPs) represent almost half of all facilities. KVIPs have a number of advantages over other sanitation technologies: they require almost no maintenance, any anal cleaning materials can be used, and it does not require water. They are now the most common technology used by urban households, and the second most common technology used by rural households (50% of rural residents use pit latrines, and 27% have no toilet facilities (Ghana Statistical Service, 2000).

Bucket latrines and public toilets were used extensively in Kumasi since colonial times. Since the mid-1980s the KMA has actively discouraged bucket latrines as well as emptying service provision for bucket latrines, and has been promoting alternatives (e.g., through subsidies). But for financial reasons and convenience, 8% of the population still relies on bucket latrines.

2.11.3 Faecal Sludge Collection

The faecal sludge (FS) collection from public toilets, individual households and institutions is presently assured by 22 collection companies, of which five companies are publicly owned. These companies use vacuum suction trucks of a capacity of 5 to 8 m³ (most of them are 5 m³) according to Vodounhessi and von Münch (2006). The collection companies discharge the collected FS at the privately operated FS treatment plant (FSTP) at Dompoe and there is now no longer illegal FS dumping in the city. This has been successful through the strictness of the Assembly rules and the community participation in denouncing defaulters (no analytical data available).

2.11.4 Transportation

In 2005, an average of 1255 tanker loads of faecal sludge were discharged monthly at the Dompoe FSTP, which amounts to 6,300 m³ of FS collected monthly from the city (Steiner *et al.*, 2002 cited in Vodounhessi and von Münch (2006)).

2.11.5 Disposal

Faecal sludge from septic tanks, bucket, pit, and misused KVIP latrines needs to be collected. In many cities in West Africa, there is illegal dumping of faecal sludge due to unenforceable laws, high costs at dumping sites, inaccessibility of septic tanks, or long transportation distances (Montangero *et al.*, 2002). In Kumasi, there is reportedly no illegal dumping (Vodounhessi, 2006). This is attributed to the competitive market between private operators, the KMA's ability to withdraw the licenses of operators that dump illegally, and community participation in denouncing those who dump illegally (Montangero *et al.*, 2002; Vodounhessi 2006).

2.11.6 Treatment

Treatment of faecal sludge is currently done at the Dompase landfill site, where (as of December 2006) the sedimentation ponds were also full. New Ponds were under construction at the time of my last visit in 2012. It should be emphasized that faecal sludge treatment in Kumasi is significantly better than in most other West African cities. Very few cities have any faecal treatment facilities, and even where these facilities are available, illegal dumping is common. Thrift (2007) stated in his report, that 100% of Accra's faecal sludge is going, untreated, into the ocean because none of their treatment plants is operational.

2.12 Role of the Private Sector in Sanitation services delivery

According to the Revised Environmental Sanitation Policy (2010) the private sector plays a very important role in sanitation services delivery in the country, among which include;

- . Provision and management of septic tankers on fully commercial basis
- . Construction, rehabilitation and management of public baths, and toilets
- . Provision and management of waste treatment, recycling and disposal facilities
- . Operation and maintenance of sewerage collection and treatment systems by contract, franchise or concession, supervised by the Assemblies.

2.13 Incentives for Private Sector Involvement in sanitation services delivery

The PPP approach involves the private sector financing the construction and/or rehabilitation of existing facilities. The MMDAs, however, facilitate the process including providing designs, drawings, site acquisition and procurement of the

private sector. The main advantages of this arrangement, as highlighted by MLGRD (2010), include but are not limited to the following:

- . Fast and timely provision of facilities;
- . Mobilisation of financial resources by the private sector, thereby releasing the
- . scarce funds of the Assembly for the provision of other municipal infrastructure and services;
- . Improvement in the quality and quantity of facilities provided;
- . Enhancement of public-private-partnership.



3 OVERVIEW OF STUDY AREA AND METHODOLOGY

3.1 Profile of Kumasi

The Kumasi Metropolitan Assembly constitutes the highest political authority in the metropolis. It guides, directs and supervises all other administrative authority in the city. It is divided into ten administrative Sub-Metro Council Areas. It has 24 Town Councils and 419 Unit Committees. The Assembly itself is made up of 87 members with 60 of them elected and 27 appointed by the state. A Metro Chief Executive who is the Mayor of Kumasi heads KMA.

3.1.1 Location of Metro

Kumasi is located in the transitional forest zone and is about 270km north of the national capital, Accra. It is between latitude 6.35° – 6.40° and longitude 1.30° – 1.35° , an elevation which ranges between 250 – 300 metres above sea level with an area of about 254 square kilometres. The unique centrality of the city as a traversing point from all parts of the country makes it a special place for many to migrate to. The metropolitan area shares boundaries with Kwabre East District to the north, Atwima District to the west, Ejisu-Juaben Municipal to the east and Bosomtwe to the south.

3.1.2 Relief and drainage

The Kumasi Metropolis lies within the plateau of the South–West physical region which ranges from 250-300 metres above sea level. The topography is undulating. The city is traversed by major rivers and streams, which include the Subin, Wiwi, Sisai, Owabi, Aboabo, Nsuben among others. However, biotic activity in terms of estate development, encroachment and indiscriminate waste disposal practices have

impacted negatively on the drainage system and have consequently brought these water bodies to the brink of extinction.

3.1.3 Geology and soil

The metropolitan area is dominated by middle Pre-Cambrian rock. It is within the plateau of the south-west physiological region, which ranges between 250 and 350 metres above sea level.

3.1.4 Climate

Kumasi lies in the humid forest zone, and experiences much higher rainfalls than northern Ghana. In Kumasi there are two rainy seasons: from mid-March to mid-July, and from mid-September to mid-November. December to February is the driest period of the year. Temperatures range from 20.7 to 33.6°C.

3.1.5 Demography

The Metro's beautiful layout and greenery has accorded it the accolade of being the "Garden City of West Africa". From the three communities of Adum, Krobo and Bompata, it has grown in a concentric form to cover an area of approximately ten (10) kilometers in radius. The direction of growth was originally along the arterial roads due to the accessibility they offered resulting in a radial pattern of development. The city is a rapidly growing one with an annual growth rate of 5.47 per cent (Regional Statistical Office, Kumasi). It encompasses about 90 suburbs, many of which were absorbed into it as a result of the process of growth and physical expansion. The 2000 Population Census kept the population at 1,170,270. It now has a population of 1,989,062 in 2012

(<http://en.wikipedia.org/wiki/Kumasi#Demographics>).

3.1.6 Economic Activities

The service sector accounts for roughly 80% of the economic activity in Kumasi, and about 75% of employment in Kumasi comes from small informal businesses. Industry accounts for only 20% of the economy, and consists mainly of wood-working, sawmills, and breweries (though there are also factories that produce, for instance, foam products). Urban agriculture is an important source of food for Kumasi, but in terms of employment and the economy, it is fairly insignificant (King *et al.*, 2001).

3.1.7 Health care facilities

KMA has quite a number of health facilities which provide health care for people in the metropolis. It has one Teaching Hospital (i.e. Komfo Anokye Teaching Hospital) which serves also as a Regional Hospital, two quasi-government hospitals (one for the University and the other for the Military), 5 Polyclinics, over 200 known Private Clinics, 13 Industrial Clinics, 9 maternal Health Posts and 169 Outreach Stations. There are also 15 Private Laboratories in addition to the Laboratories in the various hospitals (Oppong, 2011).

3.1.8 Educational Facilities

The metropolis has educational facilities which provide education for all. Accessibility and affordability of education especially in private educational facilities in the metropolis however leave much to be desired (Oppong, 2011). This is because of the expensive fees charged by some of these private educational institutions. KMA however is endowed with two Public Universities, three Private Universities, one Polytechnic, two Colleges of Education, eighty-three Senior High

Schools and over 1,018 Basic Schools (The private sector provides the bulk of these institutions at the pre-school).

3.2 Research Methodology

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This section aims at presenting the scientific and analytical framework for the study. Thus, the approach and methodology adopted and used for the study are discussed. The research design adopted and the processes used in undertaking the research are also presented and discussed. It also presents the data requirements, forms and sources, data collection and analysis tools and instruments used as well as method of presentation and reporting of findings.

3.2.1 Research Design/Approach

The choice of a research methodology was guided by the research questions and objectives, the focus of the study, the purpose of the study, the extent of existing knowledge, the amount of time and other resources available as well as the researcher's own philosophical underpinnings. Considering the above mentioned factors, the case study approach was considered the most appropriate. The case study approach was used because it can address contemporary issues. The choice of this method was based on the fact that it satisfies the three tenets of the qualitative method: describing, understanding, and explaining.

3.2.2 Criteria for selecting the study area

The choice of the study area was based on certain criteria. The criteria included proximity to ensure easy communication, knowledge of the Metro to ensure easy access to information, and small land size that gave the researcher easy access to selected communities. Another criterion was that the Metro had implemented a lot of sanitation projects by PPP and yet sanitation coverage is low. Three Sub-metros,

Oforikrom, Asokwa and Subin were selected due to proximity. Below is a photographic representation of the ten sub-metros obtained from the Planning unit of the KMA.

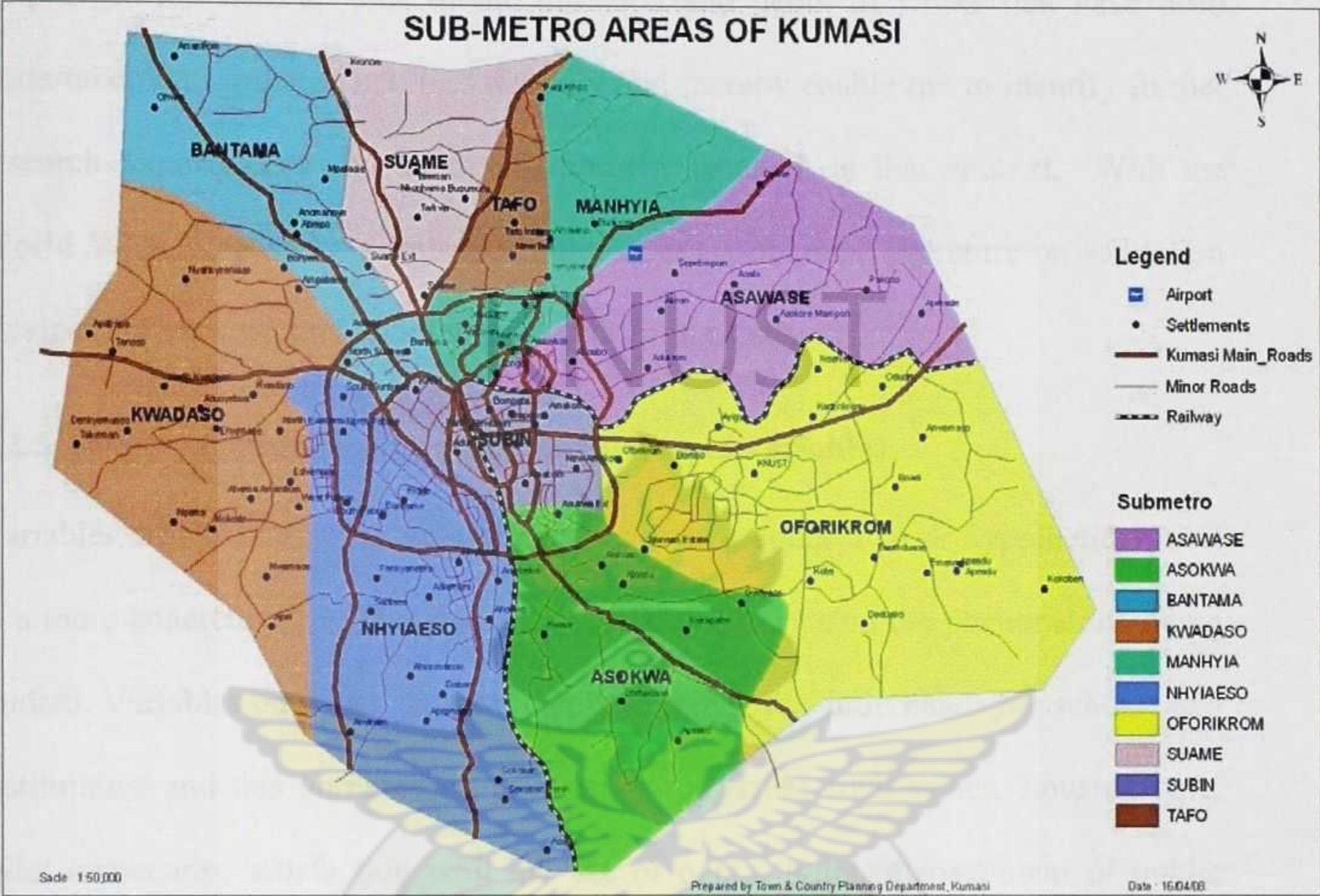


Figure 3-1 Sub-metro areas in KMA

3.2.3 Problem definition and synopsis preparation

As in every other research this study began with the definition of a problem. This involved mainly identifying a topic that required and merited study and which will be of interest to stakeholders. Factors such as the need for originality, the availability of literature, willingness of major players in the study area to provide information and time and other resources available were taken into consideration in selecting this topic. Many researchers have conducted study into various aspects of sanitation, so it was decided to study sanitation infrastructure and services delivery.

3.2.4 Review of relevant literature

In line with the scope and problem defined in the synopsis I sought for relevant literature of works previously undertaken on sanitation services delivery. This was to provide me with an idea of the direction and depth of works that have been undertaken on sanitation services delivery and thereby enable me to identify further research requirements and hence position my research in that context. With the World Wide Web and a number of publications I obtained literature on sanitation services delivery which I adopted and used for the study.

3.2.5 Units of analysis, Key data categories and variables

Variables are necessary in research to move from a conceptual or hypothetical level to a more concrete level. The choice of variables depends on the phenomenon being studied. Variables on which data were collected included individuals/households and institutions; and this bordered on socioeconomic issues such as sex, housing type, toilet ownership, satisfaction with the use of public toilet, management of public toilet and sewerage systems. Others included user fee charges and the level of satisfaction with operation and maintenance of the systems. For the institutions, data on the background of the institution, institutional arrangements, budget and financing arrangements, and operational issues were collected.

3.2.6 Framework for assessing partnership

In assessing the Public-Private Partnership in this study, the researcher addressed the roles of the partners and the nature of the contract arrangement as well as the relationship between the partners bothering on issues of trust, accountability and transparency.

Figure 3-2 shows the conceptual framework for assessing the partnership in this study.

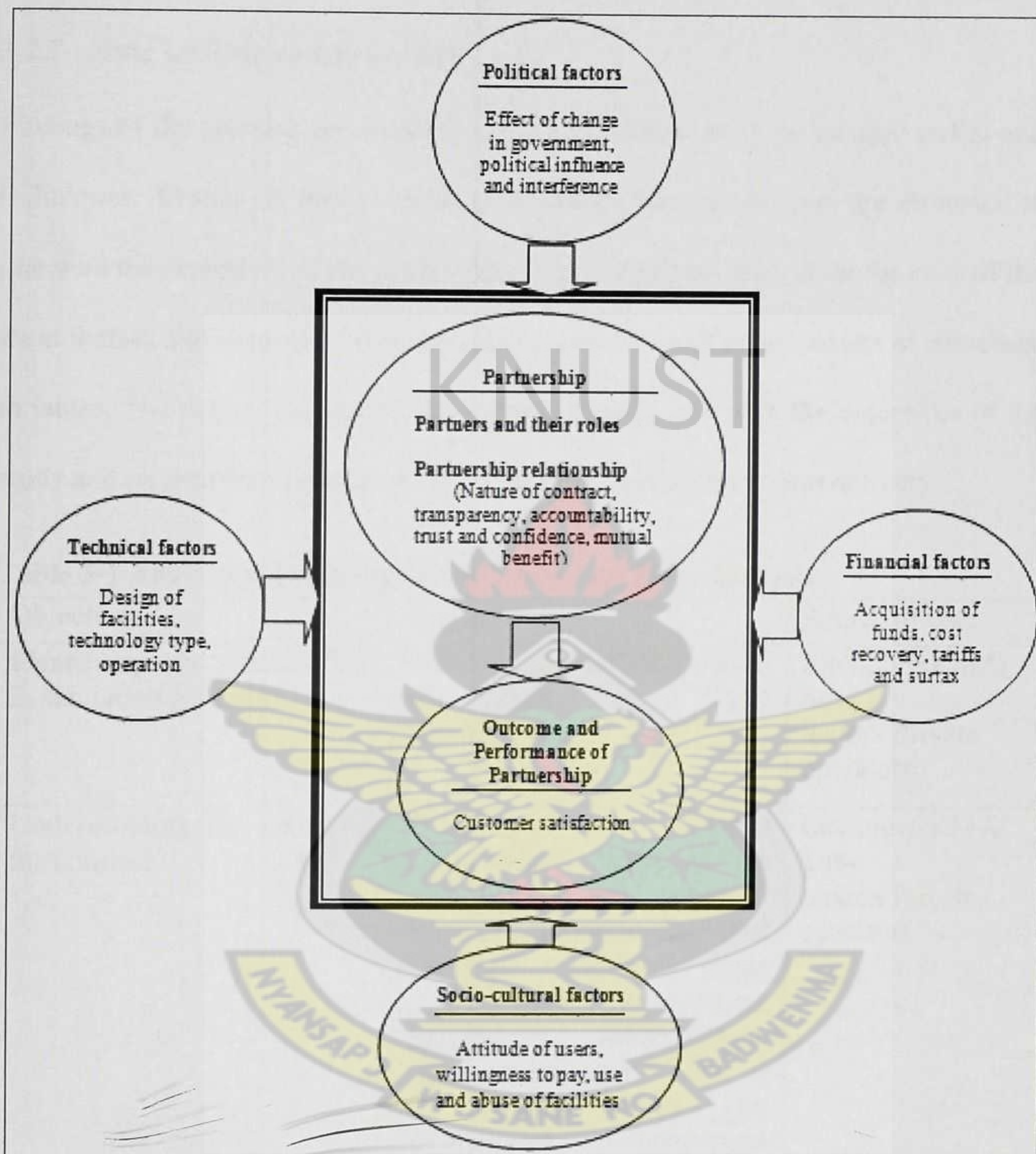


Figure 3-2 Conceptual framework for assessing Partnership in this study

How PPP has contributed to the performance of the sanitation sector was also examined based on the service levels. Service levels were measured by customer satisfaction based on their preference, charges, and cleanliness of facilities. The

external factors affecting the PPP and the performance of the PPP were also examined.

3.2.7 Data analysis and Reporting

Findings of the research are reported using a combination of varied approaches and techniques. Results on major aspects of sanitation services delivery are discussed in line with the objectives of the study. Qualitative analyses were done for each of the main themes and supported with statistical presentation of actual results of responses in tables. The major findings are also summarized in line with the objectives of the study and recommendations made for enhancing sanitation services delivery.

Table 3-1 Analytical Framework for Qualitative Data Analysis

Objective	Questions	Source of data
Identifying the Partnerships in sanitation provision	Who are the partners? What are their roles and responsibilities?	Literature/KMA/ Sub-metros/Private operators
Understanding the nature of the contract	What is the contract arrangement? What is the duration of the contract? What are the main sources of funding? What is the scope of the contract (construction, operation, rehabilitation, maintenance, etc)? What is the share of the risk arrangement (investment risks/operational risks)?	Literature/KMA/ Sub-metros/Private operators
Understanding the factors that promote good partnership relationship	Power relations, Mutual benefits, Transparency, Accountability, Mutual trust,	Literature/KMA/ Sub-metros/Private operators
Factors that influence the partnership and the sanitation sector	Social and cultural, Legal, Financial, political factors, technical issues,	Literature/KMA/ Sub-metros/Private operators
Performance outcomes		
Sanitation service levels & Customer satisfaction	Accessibility and Reliability of services, coverage, charges	KMA/ Sub-metros/Private operators/ users

3.2.8 Sampling methods

Purposive sampling based on proximity and presence of PPP was used to select three sub-metros; Oforikrom, Asokwa and Subin, within the Metro. Asokwa has only 3 facilities built by BOT, so all the three facilities were selected. For each of Oforikrom and Subin, four BOT facilities were selected by random sampling. For each of the three sub-metros, a public toilet facility owned by KMA was selected, to serve as a control, by random sampling. The reason for selecting the three sub-metros is that the sewerage systems at Asafo, Chirapatre and Ahinsan fall within the three sub-metros. The Faecal sludge treatment plant also falls within the Asokwa Sub-metro. Purposive sampling was used to obtain data from specific groups which included KMA, Sub-Metro offices, Private Operators, and Toilet attendants. Users of the facilities were selected at random to be interviewed. The outcome of the sampling is illustrated in the following tables;

Table 3-2 Public toilet facilities within the three Sub-metros

SUB-METRO	NO. OF PUBLIC TOILET FACILITIES	OWNERSHIP		
		KMA	BOT	OTHERS
Asokwa	20	14	3	3 (community)
Oforikrom	52	41	10	1 (unknown)
Subin	57	34	20	3 (school, STC, GRCL)

Source: Researcher's Field work

Table 3-3 Sample sizes of Respondents

Category		Sample Size
KMA		2
Sub-metros		3
Private operators	Public toilets	11
	Sewerage systems	3
Attendants		11
Users	BOOT Public toilets	55
	KMA-owned Public Toilets	15
	Sewerage systems	15
TOTAL		115

Source: Researcher's Field work

3.2.9 Data sources and collection instruments

The data for the study was gathered and collected from secondary or documented sources and primary data from the field. Secondary data was gathered from sources such as environmental sanitation reports and policy documents, newspaper clippings and journals, theses, District Medium-Term Development Plan (2006-2009), NESSAP, as well as other publications that were sourced from libraries, institutions and the internet. Primary/field data was collected through the administration of questionnaires for individuals, interview guides for discussions that were held with key informants and observation in the Metro and Sub-metros. User questionnaires were used to collect information on user satisfaction levels.

3.2.10 Analytical methods for data processing

Analysis of the data was done at the individual and institutional levels. The variables that were used for the individual users included sex, age, types of toilet facilities, toilet ownership, and use of public toilets and level of satisfaction with sanitation services delivery. Qualitative technique of data processing was adopted. Microsoft Excel was used for data processing, since its application enhances the manipulation and easy use of the data to achieve the stated objectives of the study. Data collected was edited before the MS Excel was used. Various responses from respondents were coded and resultant tables that were generated facilitated the analysis.

4 RESULTS AND DISCUSSION

This chapter discusses the results obtained from the study. Public-Private Partnership (PPP) in infrastructure provision is captured under Build-Operate-Transfer (BOT) while PPP in services provision is captured under BOT, franchised management of KMA-owned toilets and Asafo sewerage system

4.1 Characteristics of Public toilet respondents

In all 70 public toilet users were interviewed. 55 were users of the BOT facilities within the 3 Sub-metros and 15 were users of the KMA-owned facilities. In addition, 15 beneficiaries of the Asafo sewerage system were also interviewed. Tables 4-1 and 4-2 below show the summary of the characteristics of the respondents.

Table 4-1 Summary of age distribution and sex of respondents of public toilet user survey

	Asokwa	Oforikrom	Subin	
Age				
<20	1	1	4	6
21-30	5	15	12	32
31-40	6	4	3	13
41-50	4	3	2	9
51-60	3	2	3	8
>60	1	0	1	2
Total	20	25	25	70
Gender				
Male	13	13	15	41
Female	7	12	10	29
Total	20	25	25	70

Source: Researcher's Field work

Out of the 70 public toilet users interviewed, 48 were resident within the study area while 22 were non-residents who either worked around the area, came for a visit or passing by when it became necessary to use the toilet.

BOT facilities of 20 as against 3 and 10 in Asokwa and Oforikrom Sub-metros respectively as illustrated in the Figure 4-2.

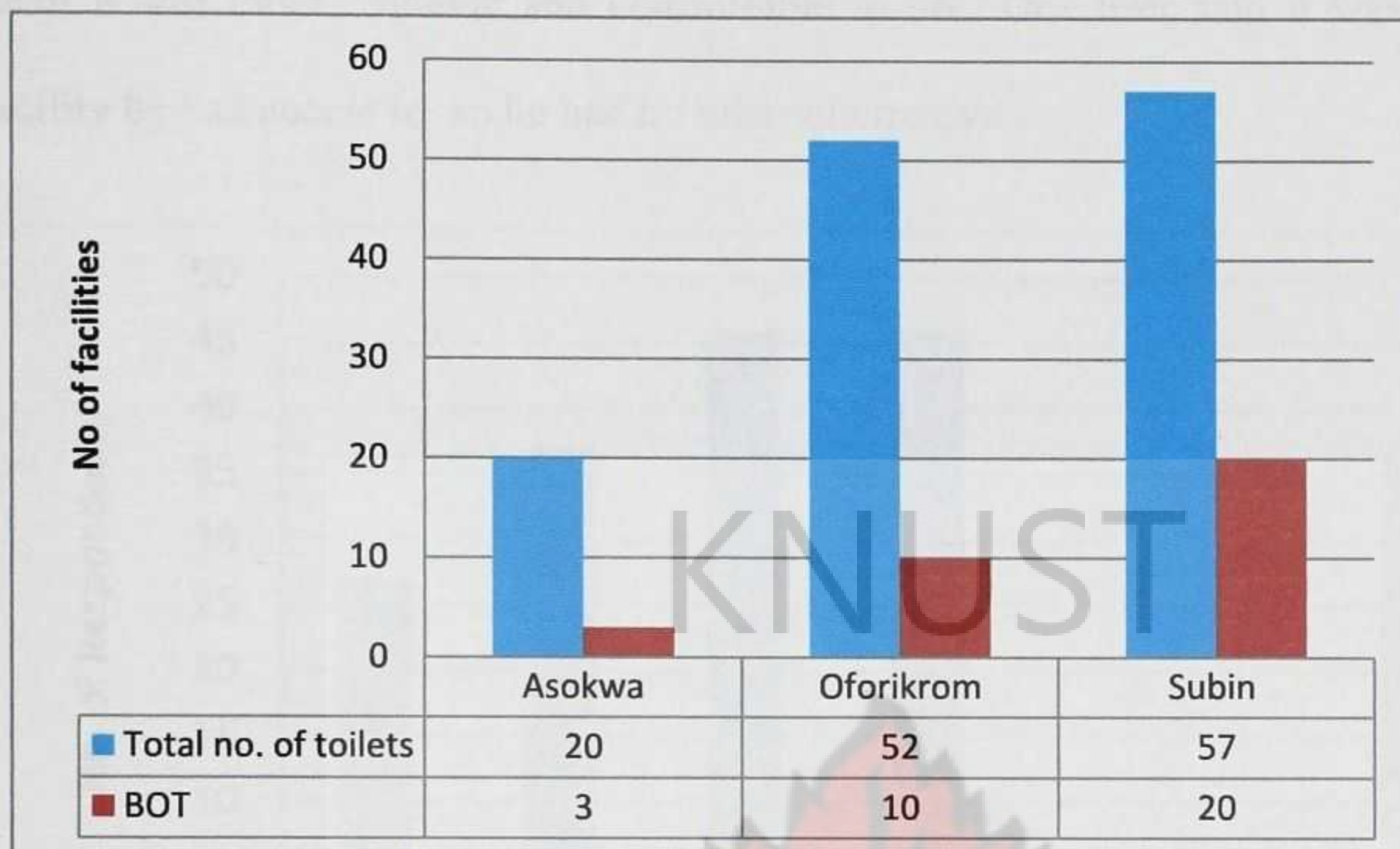
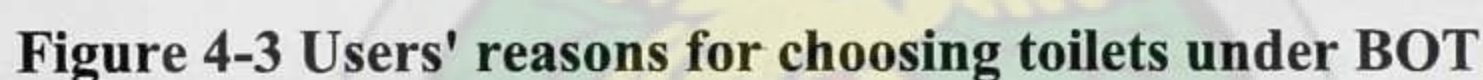


Figure 4-2 Number of BOT facilities within the study areas

4.2.1.2 Why people use BOT toilets

Out of the 15 users interviewed at the Asokwa Sub-metro, 10 respondents were males and 5 females. 9 out of the 15 respondents at Oforikrom were males while 11 were females. 12 out of the 20 interviewed at Subin were males and 8 females.

During interviews with the users of the public toilet facilities, the users stated various reasons for their preference for toilet facilities under the BOT. From Fig 4-3 below out of the 55 BOT users interviewed, 27 chose the facility because of its accessibility and proximity to their homes, 37 users however preferred BOT facilities because there was little or no odour as well as no heat. 46 users, representing a majority preferred BOT facilities because the place was kept clean. Occasional visits by the researcher to the facilities affirmed that. Some 46 users also admitted that the user fee charged (20-40p) was fairer than that charged by the KMA facilities (10p) considering the expenditure the operators make on operations and maintenance. 41



BOT toilets charge between 20pesewas and 40pesewas per visit. A survey of the user perception of the fee charged for using the facility indicated that 19 respondents were not satisfied claiming it was rather too high. 36 respondents acknowledged the expenditure made on operations and maintenance as well as the quality of service provided and expressed satisfaction about the user fee. Interestingly, as shown in Fig 4-4, no user out of the 55 interviewed admitted that the fee was relatively low and required a review contrary to what the investors believed.

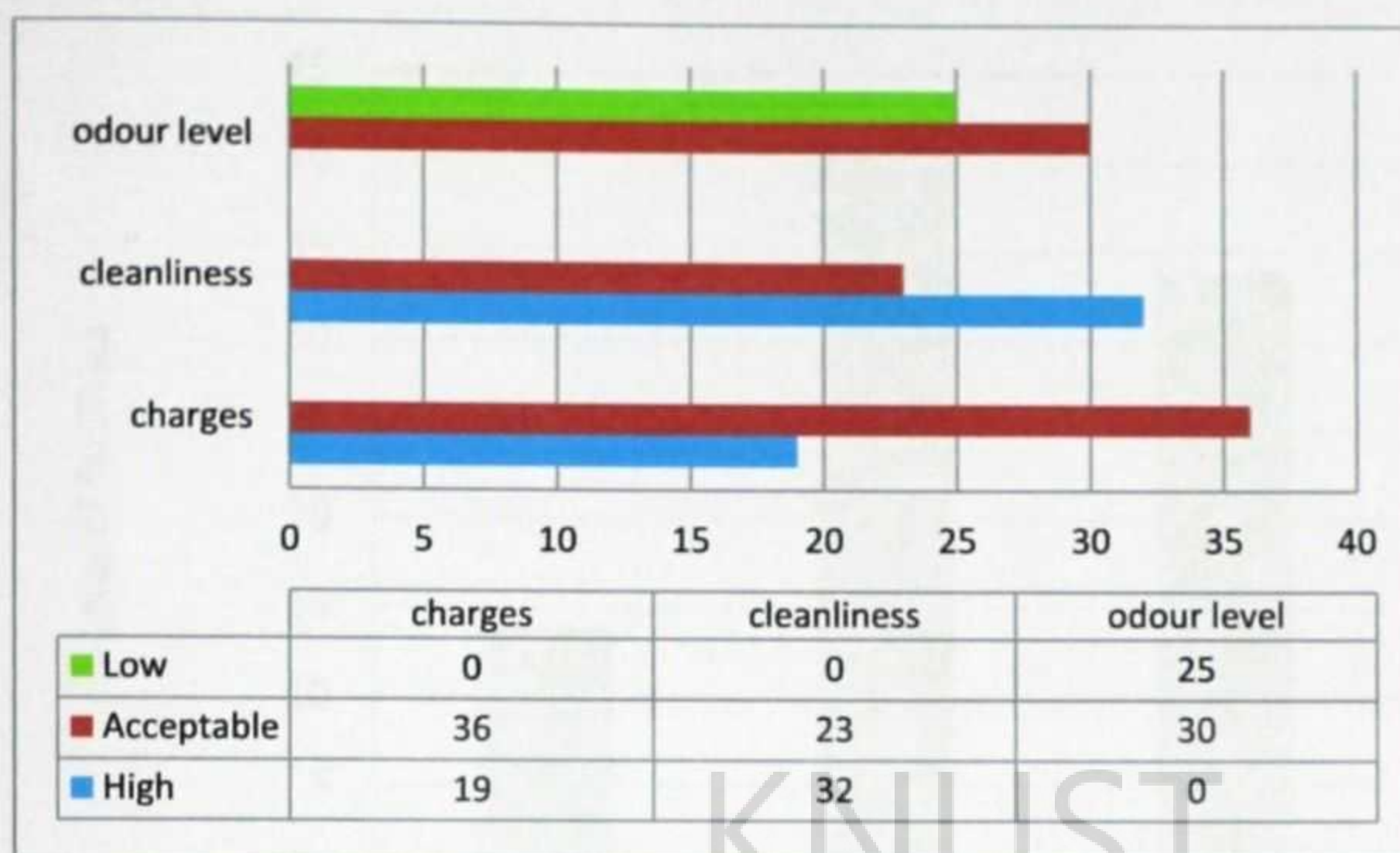


Figure 4-4 User perception about toilet facilities under BOT

4.2.1.4 Cleanliness of toilets under BOT

32 respondents rated the BOT facilities as very clean and 23 said it was fairly clean since some users misuse the facilities. Also cleaning was not done as promptly as expected. No user considered the cleanliness of the BOT facilities poor.

4.2.1.5 Odour levels of toilets under BOT

As shown in Figure 4-4, 25 Users of the BOT facilities indicated that there was no odour at all. But 30 also said there was some slight odour, though not strong enough to make one take off his/her dress before entering the cubicles as pertains to the KMA toilet facilities.

4.2.2 KMA-owned Toilet facilities service levels

4.2.2.1 Number of KMA-owned toilets under Franchise Management

Asokwa Sub-metro has a total of 14 KMA-owned facilities, Oforikrom has 41 representing the highest coverage and Subin has 34 facilities (Fig 4-5). All the facilities are of the KVIP technology type.

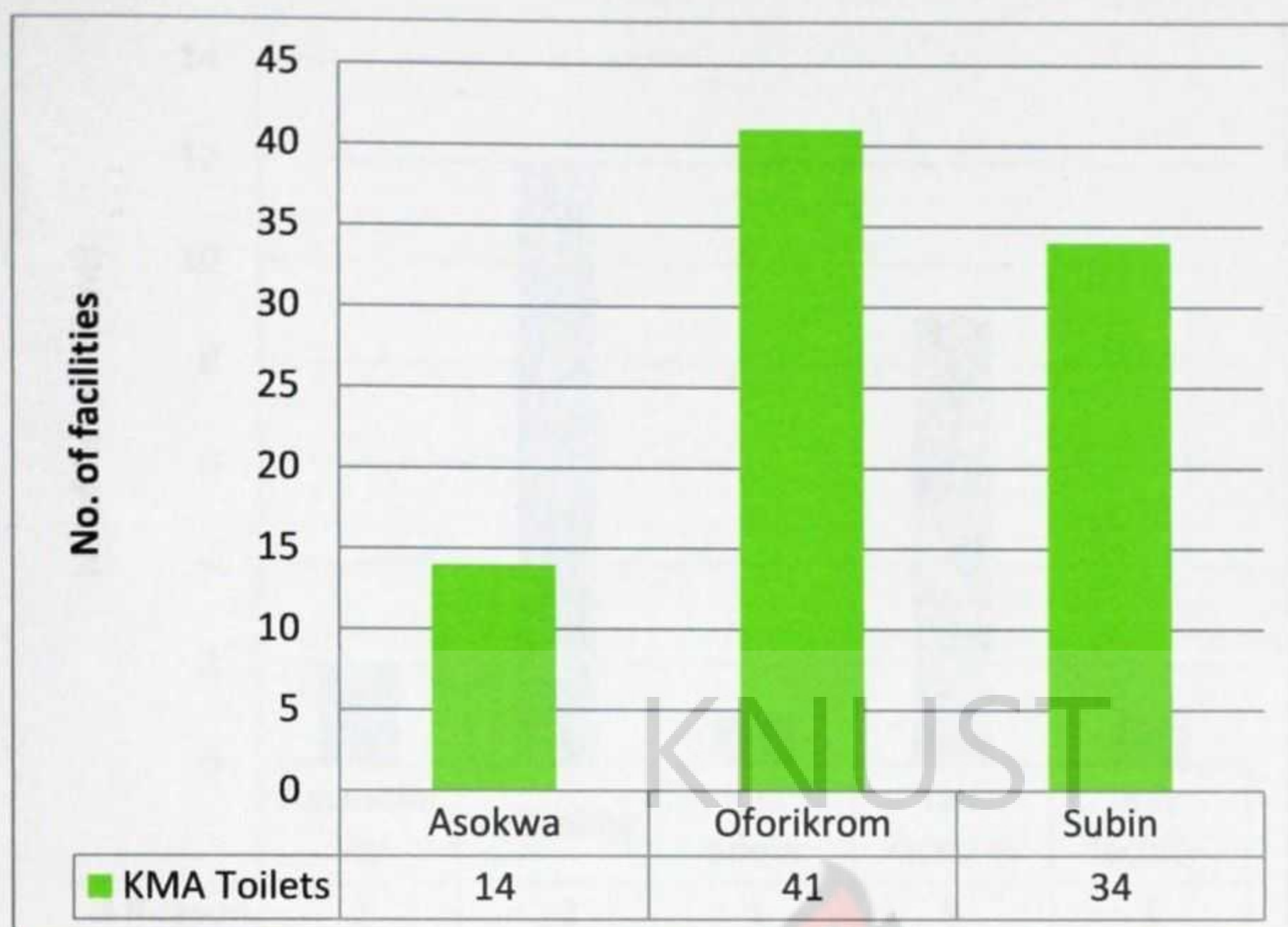


Figure 4-5 Number of KMA toilets within the study area

4.2.3 Why people use toilets under Franchise Management

5 users were interviewed for each of Asokwa and subin, while 6 were interviewed for Oforikrom. In all the Sub-metros, there were more men patronising the KMA facilities than women. Despite the heat and stench emanating from the KMA-owned KVIPs, some users still prefer that to the BOT facilities. According to the survey, 12 out of 15 users indicated that the KMA-owned facility was more reliable considering the opening hours of 4am to 11pm each day; and 9 said their reason was the relatively lower user fee charged as shown in Fig 4-6.

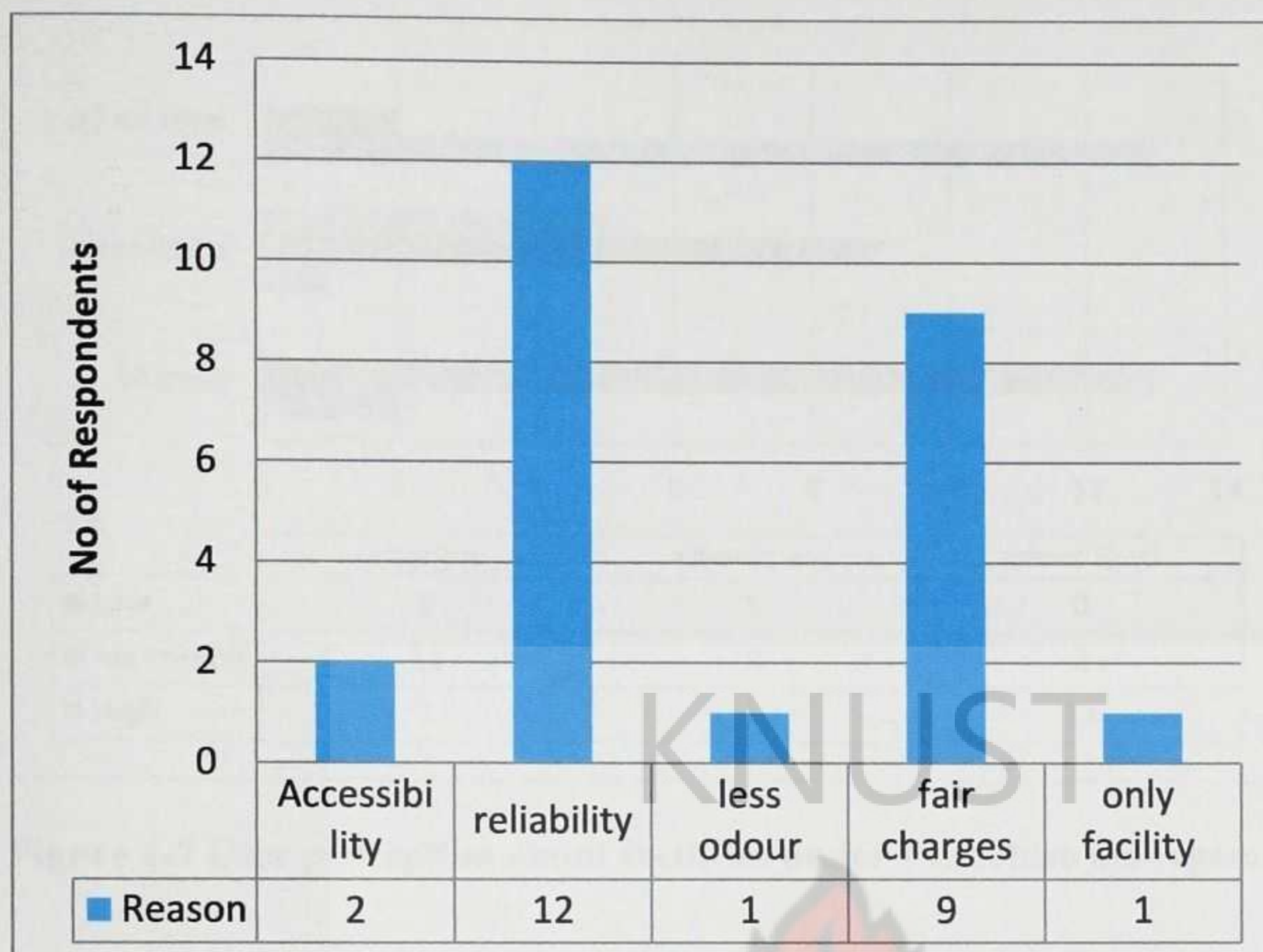


Figure 4-6 Users' reasons for choosing KMA-owned Toilets under franchise management

4.2.3.1 Franchise Managed Toilet Charges

For the KMA facilities, even though majority (13 out of 15) of respondents said the fee was acceptable, 2 respondents also felt it should be fee-free since the place is almost always unkempt and disinfectants are not used (Fig 4-7). Other complains were the stench, desludging problems, and dilapidated buildings. Other users are also not careful with the toilets and misuse them. Contrary to the situation at the BOT facilities, there is no water, soap and towels for hand washing.

Subin Sub-metros. From the above discussions on the sanitation service levels, the study revealed that the facilities under BOT are better managed than the KMA-owned franchised managed. This has resulted in a high patronage of the BOT toilets. Users are also more comfortable with the water closet (WC) type than the KVIP. An interesting scenario was observed in the Oforikrom Sub-metro, the case of septic tank latrines. The septic tank latrine under BOT at Anwiam (Plate 2) is the flushing and squatting type while that under franchise management at Kotei is non-flushing but sitting type (Plate 1). At the time of visit, it was observed that the facility at Kotei appeared cleaner than that at Anwiam. This goes to affirm the 7% of users who rated the franchise managed facilities as very clean. However, residents of Anwiam would use the septic tank latrine rather than the franchise managed KVIP (Plate 3)



KMA has currently drafted a policy to phase out all the KVIP and aqua privy toilets over time, hence new ones are not being constructed. KMA, however, does not have the means to replace all the KVIP and aqua privy toilets with WC all at once and thereby depending on private investors to achieve their goal in the long term.

Assembly members within the Sub-metros have been given some facilities to manage so that they could use the proceeds to take care of themselves since they are not

being paid by government. But conditions at these facilities show clearly that the assembly members are more interested in the revenue than the comfort of the users. A typical example is what pertains at the KVIP toilet at Anwiam.

4.4 Public-private partnership for public toilet Infrastructure (BOT)

4.4.1 Partners of BOT and their roles

The main partners within PPP are KMA being the public partner and the private investors. The responsibility of KMA towards the success of the partnership is first to procure the private investor. The Sub-metros are already zoned and sanitary sites designated.

Table 4-2 Partners of BOT and Their Roles

Partner	Roles
KMA	Provision of an appropriately zoned sanitary site, approved design and drawings of the facility and technical supervision Fixing of user fees
Private Company/individual	Financing the construction of new and/or rehabilitation of existing facilities

There is no advertisement for the construction of public toilets as done in competitive bidding. The private investor first expresses interest in the project. KMA after assessing his capability to execute the task then enters into a contract agreement with the investor. KMA provides the sanitary site and design drawings to be used by the private investor. KMA also provides technical assistance all through the construction and operation of the facilities. The private investor, on the other hand, sources funds from bank loans, individuals and family members to finance the construction of the facilities. KMA fixes the user fee to be charged based on the contract duration, cost recovery period and expected revenue.

4.4.2 Nature of BOT Contract

According to interviews with the private investors and KMA, the partnership is backed by a signed written contract which covers a period of 20 years after which the facility is reverted to KMA. After installation of the facility, KMA performs a test-run for three months to ascertain the number of people expected to visit the facility daily, as well as the daily/monthly expenditure made.

Table 4-3 Summary of Nature of BOT Contract

Aspect of Contract	Description
Ownership	The facility is owned by the investor.
Operation	Investor is solely responsible for the operation and maintenance of the facility.
Financing	Private investor secures funds for the construction and recovers cost of investment through collection of user fees. Investor pays surtax to KMA every month
Formality of Contract	Formal; involves signing of contract agreement
Contract duration	20 years
Extension/termination	KMA reserves the right to terminate the contract should the investor fail to start on time or performs unsatisfactorily. He investor also can abrogate the contract if KMA fails in its part of the agreement. No case of contract termination has been recorded. Investors seek for an extension of contract when they are not able to recover their investment cost within the contract duration.
Scope of contract	-construction of facilities according to KMA designs and drawings -O&M of facilities until end of contract period

Based on the results of the test-run, a moderate user fee is set to help the private investor recover the investment cost over the contract period. Operations and maintenance expenditure are all covered by the user fees collected. The test-run also helps KMA to calculate 15% surtax for the investor to pay to KMA every month.

In the event of the private investor's inability to recover the investment cost by the end of the contract, the contract may be extended.

This model of PPP is very beneficial to both KMA and the private investor. This is because; it relieves KMA of the burden of sourcing for funds to perform its responsibility of providing sanitation infrastructure for the inhabitants. The private operator on the other hand, gets an investment of a life time.

4.4.3 BOT Partnership relationship

The relationship between partners were measured on grounds of transparency, trust and confidence, accountability and mutual benefit as shown in Table 4-5 below.

Table 4-4 Summary of BOT Partnership Relationship

	Asokwa	Oforikrom	Subin
Transparency	Dishonesty on the part of the private investors	Dishonesty on the part of the private investors	Dishonesty on the part of the private investors
Trust and Confidence	KMA does not interfere with their operations	KMA does not interfere with their operations	KMA does not interfere with their operations
Accountability	Investors are not accountable to KMA	Investors claim to pay monthly surtax and yet receives nothing from KMA in return	Investors claim to pay monthly surtax and yet receives nothing from KMA in return
Mutual Benefit	KMA receives franchise fee monthly	KMA receives franchise fee monthly	Investors make profit after they have recovered their investment cost before the contract duration.

4.4.3.1 Partnership transparency

KMA and the Sub-metros noted that there is a bit of dishonesty on the side of the private operator when it comes to payment of surtax. According to KMA, the operators who fail to pay do so with the excuse that they were running at a loss. But surtax is calculated based on the outcome of test-running the project after installation for about three months. And so KMA has a fair idea how much expenditure and

revenue comes out from a project every month, taking into consideration variations in interest and inflation rates.

The investors also accused KMA of not being transparent at the start of the project. This was because per the contract, KMA is supposed to offer the sanitary site on which the investor build (in the case of BOT) and yet investors are made to pay 'mobilization fee' on which no receipt is issued. This leaves much to be desired as investors are not sure where that money goes. Where there are issues of opacity with the public institution, the private investor is not willing to enter into the agreement. This adversely affects the PPP and deters other investors from coming on board.

4.4.3.2 Trust and Confidence

An interview with the investors (private operators) within the BOT revealed that they were very satisfied with the partnership since KMA has given them enough room to operate with no stringent monitoring except for inspection routine inspection. According to them, KMA does not probe into their income and expenditure; neither interferes with their operations once the private operator faithfully honours the surtax.

The private operators also revealed that the public toilet attendants were not trustworthy. Some of them related the events when some attendants had given out their own anal cleansing materials instead of what has been provided by the operator and kept the proceeds. This according to the private operator affects the revenue generated by the private operator and cripples their cost recovery rate. KMA on the other hand, trusts the private operators in terms of delivering quality service. However occasional visits (announced and unannounced) are made to the facilities to put the private operators on check.

4.4.3.3 Accountability

In the case of the BOT, the private operators said they render no accounts to the public sector apart from paying surtax. KMA also does not interfere with their income and expenditure as long as they pay their surtax. If an operator fails to pay surtax, the operator is served a warning letter and subsequent closing down of the facility if the operator still fails to pay the surtax.

4.4.3.4 Mutual Benefit

The private operators admitted that the partnership was very good business especially after they have been able to recover their initial investment. The contract is also renewable and so they can keep the facility as long as they can, and make good profit. A private interviewed at the Asokwa Sub-metro indicated that he had three BOT facilities running concurrently in three different Sub-metros and planning to build one more. According to him, the business is so good that no investor in his right state of mind would hand over the facility to the Assembly. Instead they seek for extension under the prevarication of not having recovered their investment cost.

KMA, on the other hand, admitted that the advantage of this model is the fact that the Assembly can discharge its responsibility to provide public toilets with no drain on its resources, but rather receiving an income (Franchise Fee). The franchise fee may be adjustable by up to 15% in the event of variations in water, electricity or desludging tariffs.

4.4.4 Factors affecting PPP in BOT

The factors affecting PPP within the BOT were gathered from in-depth interviews with the private investors, the toilet attendants as well as KMA. Table 4-6 shows the details.

Table 4-5 Factors affecting PPP under BOT

	BOT- Asokwa	Oforikrom	Subin
Political	review of franchise fee with change in government	15% Surtax is too high	Gh¢120.00 Surtax a month is too high
Socio-cultural	clogging and blockages as people tend to flush down sanitary pads, not prescribed anal cleansing materials, polythene bags	clogging and blockages as people tend to flush down sanitary pads, not prescribed anal cleansing materials, polythene bags	Unwillingness of users to pay
Financial	Short loan repayment period (12months)	Difficulty in acquiring loans from financial institutions	Non-payment of surtax by private investors
Technical	-Desludging problems	-frequent power cuts -frequent desludging	Unstable power supply

4.4.4.1 Political Issues

At Asokwa Sub-metro, a private investor said the surtax used to be 10% but with successive changes in government, it has been reviewed to 15% which to them is very exorbitant. At Oforikrom and subin, some investors said their 15% surtax was equal to Gh¢120.00 a month which was rather high. They expressed displeasure considering the cost they incur on operations and maintenance every week. There was no instance of political interference with the contract agreement. For instance, there is no take over by affiliates of the ruling government when there is a change in government. This makes the BOT better than the franchise management, according to a private operator.

4.4.4.2 Socio-cultural issues

Under the current model of Public-Private partnership, the approved technologies are Water Closet and pour flush toilets. Attendants complained that major problems they faced was with clogging and blockages as people tend to flush down sanitary pads,

not prescribed anal cleansing materials , polythene bags, *etc* which increases the operation and maintenance (O&M) costs incurred.

The private operators recounted instances especially within the zongo communities, where people were unwilling to pay to use the facility because the public-owned facilities were virtually free to use. At a particular facility in the Subin Sub-metro at the time of visit, users came in with their toilet paper and chose to pay half the charge or not pay at all. This attitude of users adversely affects the cost recovery process of the investor.

4.4.4.3 Financial/Tariff Issues

In BOT, the investment and O&M costs are entirely the responsibility of the investor. An interview with the investors revealed that their main sources of funding were in the forms of loans from banks and individuals. One private contractor who runs four facilities within KMA admitted that the stress involved in obtaining the loan forces them to prevaricate in order to obtain the loan. He revealed that the financial institutions would not want to take the risk of losing their money in the event of a change in government and sector policies leading to contract abrogation. The financial institutions do not even accept the toilet facility as collateral for the same reasons. This makes it very difficult to source funds for the project.

The investors also expressed dissatisfaction in the repayment period of the loans claiming it was too short. The financial institutions expected loans to be paid in as a short period as 12months according to a private operator. This has a toll on the private companies as the same resources are stretched to cover loan repayment, salaries of workers, electricity, desludging and other O&M activities, as well as

surtax. Failure to repay loan would lead to confiscation. This the investors recognised as one of the reasons for their failure to honour their surtax.

There were instances where people were unwilling to pay for using the toilet. Some elders and children also are not charge for using the facility. This also affects the investment cost recovery by the investor.

4.4.4.4 Technical issues

Under the BOT, the approved facilities run on water. All the facilities that were visited in this study depended on groundwater for flushing. However, attendants and supervisors of the facilities expressed displeasure at the frequency in power cuts since they required electricity to pump the underground water into an elevated tank which then flows under gravity and is used for flushing and cleaning. Once there is no water, there cannot be operations. This unforeseen contingency was not included in the contract arrangement, hence KMA still expects the private investor to honour his surtax even under those conditions.

They further explained that some of the users also do not use the facilities well and therefore destroy the flushing cistern, break the bowl by squatting on it instead of sitting, and soiling the bowl with faeces thereby increasing the O&M costs which were not budgeted for.

Another issue is the rate of desludging. Because the system runs on water, the septic tanks are desludged every week or sometimes less than a week depending on the usage which increases the cost of operation. The rate of desludging and its associated costs were not included in the initial test-run performed by KMA to establish the O&M costs of the facility. None of the private investors interviewed had their own cesspit emptier so unavailability of a ready cesspit emptier can cause the septic tanks

to overflow into people's property which is not environmentally friendly. In such cases the facility would be closed down until after desludging. In effect, the design of the facility is adversely affecting the PPP.

4.5 Public-private partnership for public toilet franchised management

4.5.1 Franchised Management Partners and their roles

In the franchised management partnership, KMA constructs the facilities and gives out the operation and maintenance of the facilities to private operators under a signed contract (Appendix 3). KMA is responsible for setting the user fee. The private operator/franchisee then takes over the facility, opens it daily between 4am and 11pm to the public. The franchisee is expected to desludge the pit when necessary, keep the facility and surrounding clean, disinfect the toilet and provide anal cleansing materials to the users.

Table 4-6 Franchised Management Partners and Their Roles

	KMA owned
KMA	Monitoring of construction, operation and maintenance activities and the accountability of User Fees collected at the public toilet
Private Company/individual	Operation and maintenance of the facility in accordance with the provisions of the Franchise Agreement

4.5.2 Nature of Franchised Management contract

Unlike what pertains within the BOT, in the franchised management, KMA has already built the facility but dishes out the management to a private company/individual. Table 4-8 shows the details.

Table 4-7 Summary of Nature of Franchise Management Contract

Aspect of Contract	Description
Ownership	Facility is owned by the Assembly
Operation	Franchisee is responsible for the operation of the facility
Financing	Franchisee manages the facility with the funds generated from collection of user fees. Franchisee pays franchise fee to KMA
Formality of Contract	Formal; involves signing of contract agreement
Contract duration	2 years from the day of the agreement.
Renewal/termination	-If the franchisee does not perform satisfactorily -If the franchisee has defaulted in the payment of the monthly franchise fees to the Assembly for three consecutive months and if the Agreement has not commenced 30 days after the commencement date specified in the letter of award to the Franchisee.
Scope of contract	-Maintenance of toilets and all fixtures -daily opening of toilets to the public -cleaning and disinfection of toilets -Desludging of toilets when necessary -maintaining clean and hygienic surroundings of the facility -collection of user fees and payment of bills -protection of toilets from abuse and vandalism.

The contract duration is 2years which is subject to renewal/extension based on the operator's satisfactory performance. Operators employ the services of attendants and cleaners to collect user fee and keep the toilet clean respectively. Cost of operations and maintenance are catered for by the user fees collected. The operator is expected to pay a franchise fee to KMA every month.

4.5.3 Franchised Management Partnership relationship

The relationship between the franchisees and the Assembly is not very cordial, according to interviews with KMA. This is as a result of the direct involvement and interference of faithful political party supporters in the management of the public toilets. According to KMA, most of these franchisees are affiliated to the ruling party and so they refuse to be accountable to KMA.

Table 4-8 Franchised Management Partnership Relationship

	Asokwa	Oforikrom	Subin
Transparency	Franchisees dishonest about income generated from user charges.	Public toilet attendants are not faithful in the collection of fees.	Franchisees dishonest about income generated from user charges.
Trust and Confidence	KMA does not interfere with their operations	KMA does not interfere with their operations	KMA does not interfere with their operations
Accountability	Default in payment of franchise fee	Franchisees fail to render accounts to KMA on user fees collected	Default in payment of franchise fee
Mutual Benefit	Facilities managed for and on behalf of KMA	Franchisee makes profit from collection of user fees	Franchisee makes profit from collection of user fees

Franchisees are not sincere in the payment of their monthly franchise fee with the excuse that they are not making enough revenue which according to the Oforikrom Sub-metro Environmental Health Officer is a fib. The franchisees also complained that their attendants were not transparent in accounting for the user fees collected and so, they were always running at a loss. Franchisees project their daily revenue based on the amount of toilet paper expected to be sold. According to them, the attendants bring along their own rolls of paper to sell instead of the Franchisees'. This affects the franchisees adversely as their expenditure do not match up with their income. KMA admitted that the franchise management has relieved them of the burden of managing the public toilets themselves even though the franchisees are not managing the facilities as best as they should.

4.5.4 Factors affecting PPP in Franchised Management

Some political, socio-cultural, financial as well as technical issues were noted to be adversely affecting the performance of the private sector involvement in the management of public toilet facilities. These are discussed in table 4-10.

Table 4-9 Factors affecting Public Toilet Franchised Management

	Asokwa	Oforikrom	Subin
Political	seizure of public toilets by assembly men and ruling party's foot soldiers	seizure of public toilets by assembly men and ruling party's foot soldiers	seizure of public toilets by assembly men and ruling party's foot soldiers
Socio-cultural	users' unwillingness to pay	misuse and abuse of the facility by users	users' unwillingness to pay
Financial	Failure of the franchisee to render accounts to KMA	Dishonest attendants failing to record the exact revenue collected	Unaccountability on the side of the attendants and franchisees
Technical	Technology type (KVIP) gives off too much odour and heat.	Dilapidated structures scare users away	Dilapidated structures scare users away

A seeming war over toilets looms in the Kumasi whenever there is a change of government. In separate interviews with KMA and the sub-metros, they indicated that in many cases as soon as there is a change in government, "foot soldiers" take over the management of public toilets and refuse to render accounts and pay the necessary franchise fee. They further explained that they have no much say in these circumstances since any attempt would attract saboteurs from the ruling government and their subsequent possible transfer. In an attempt to curb the situation of toilet take-overs, assembly members have been given facilities to manage, but the situation has not improved much even with that intervention.

The Sub-metros noted that there were projects which came to an abrupt end when there was change in government since in their opinion, every government has its own priorities and if building new facilities is not one of the priorities, the government obviously would abandon such projects or relegate it to a later time. As a result, the assembly currently depends on private investors to build new toilet facilities under the BOT PPP arrangement.

4.6 Public-Private partnership for Sewerage Systems Operation & Maintenance

4.6.1 Sewerage System management Partners and their roles

The sewerage system at Asafo was a one-off pilot project by the World Bank. After installation, it was handed over to the Assembly and a private operator, Environmental Engineering was contracted to take care of the operations and maintenance of the facility.

Table 4-10 Sewerage system management Partners and Their Roles

Partner	Role
KMA	Occasional inspection and monitoring of systems
Private Company (Environmental Engineering Ltd)	provide maintenance services to sewers, appurtenances and treatment plant (Waste Stabilisation ponds)

The private company is expected to provide maintenance services sewers, appurtenances and treatment plant (Waste Stabilisation ponds) as per the contract agreement (Appendix 5). Frequent maintenance activity includes removal of grit and grease from the grit/grease traps in the individual households prior to a planned training program to transfer these responsibilities to the property owners. KMA occasional pays visits to the facilities and ponds to monitor the operations.

The sewer Cleansing Unit (comprising a supervisor and two labourers) inspect periodically to check on infiltration of ground water, and plan measures to correct these if observed. The Unit is also responsible for clearing blockage/choking in the main sewer network.

The Civil Engineering Department of the KNUST is called on to perform requisite tests on the ponds. A typical Laboratory analysis of the Asafo pond is shown in Appendix 6.

4.6.2 Nature of Sewerage system management contract

The nature of the management contract between KMA and Environmental Engineering Ltd for the management of the Asafo sewerage system is discussed in Table 4-12 below.

Table 4-11 Summary of Nature of Contract

Aspect of Contract	Sewerage system
Ownership	The facility is owned by the Assembly
Operation	Private operator is responsible for operation and maintenance of the facility
Financing	User fees collected are used to manage the systems. KMA provides no financial support. Private operators do not have any financial commitment to KMA
Formality of Contract	Signed contract
Contract duration	-
Renewal/termination	-
Scope of contract	-operation and maintenance of facilities -provide repair and maintenance activities to households connected to the sewers

Ever since Environmental Engineering Ltd was contracted to manage the Asafo system, the contract has never been transferred to another. Under the initial contract arrangement, the private operator was paid to manage the system. But due to pressure on the funds allotted for sanitation, the private operator was not receiving payments

on time to continue the O&M of the system. The private operators were later commissioned to collect an approved user fee to finance their activities while the Assembly was relieved of the financial burden of paying the private operator (see Appendix 4).

Hitherto, the assembly paid the operators, while they in turn rendered accounts to the assembly. In the current situation, the operator pays no surtax to the assembly nor renders accounts to the assembly with regards to the revenue generated.

4.6.3 Sewerage System management Partnership relationship

Since there is no direct overlap between the roles of the partners, the private operator could not emphatically say the transparency levels between the partners but KMA noted that they trust the operator is doing a good job and there is therefore no need to interfere with their operations.

Table 4-12 Sewerage system management Partnership Relationship

Aspect	Description
Transparency	-
Trust and Confidence	KMA does not interfere with their operations
Accountability	Operators do not account to KMA. Manage their own resources
Mutual Benefit	-KMA helps with payment of the cost of the slasher -Operators make no profit. Sometimes they don't even break-even.

At the end of the month, the operator serves every household a demand note, which is a bill of the services rendered. Non-storey blocks are charged Gh¢3/month, Gh¢5 for one-storey and Gh¢7 for two-storey or more. Beneficiaries are charged to pay for clearing in the event of a blockage within their property. This is to discourage pushing unprescribed materials down the sewers.

The private operator, however, claimed that they do not receive any external financial aid but run the operations and maintenance on the user fees collected. Therefore, their revenue is not enough. Even though, they do not break even and run at a loss some times, the best part is that, they do not owe KMA any financial obligation.

4.6.4 Factors affecting PPP in Sewerage System management

There has not been any issue of political interference ever since the management of the Asafo sewerage system was handed over to Environmental Engineering Ltd.

The study revealed that beneficiaries who were interviewed were satisfied with the charge, but not satisfied with the work of the operator.

Table 4-13 Factors affecting Sewerage systems management

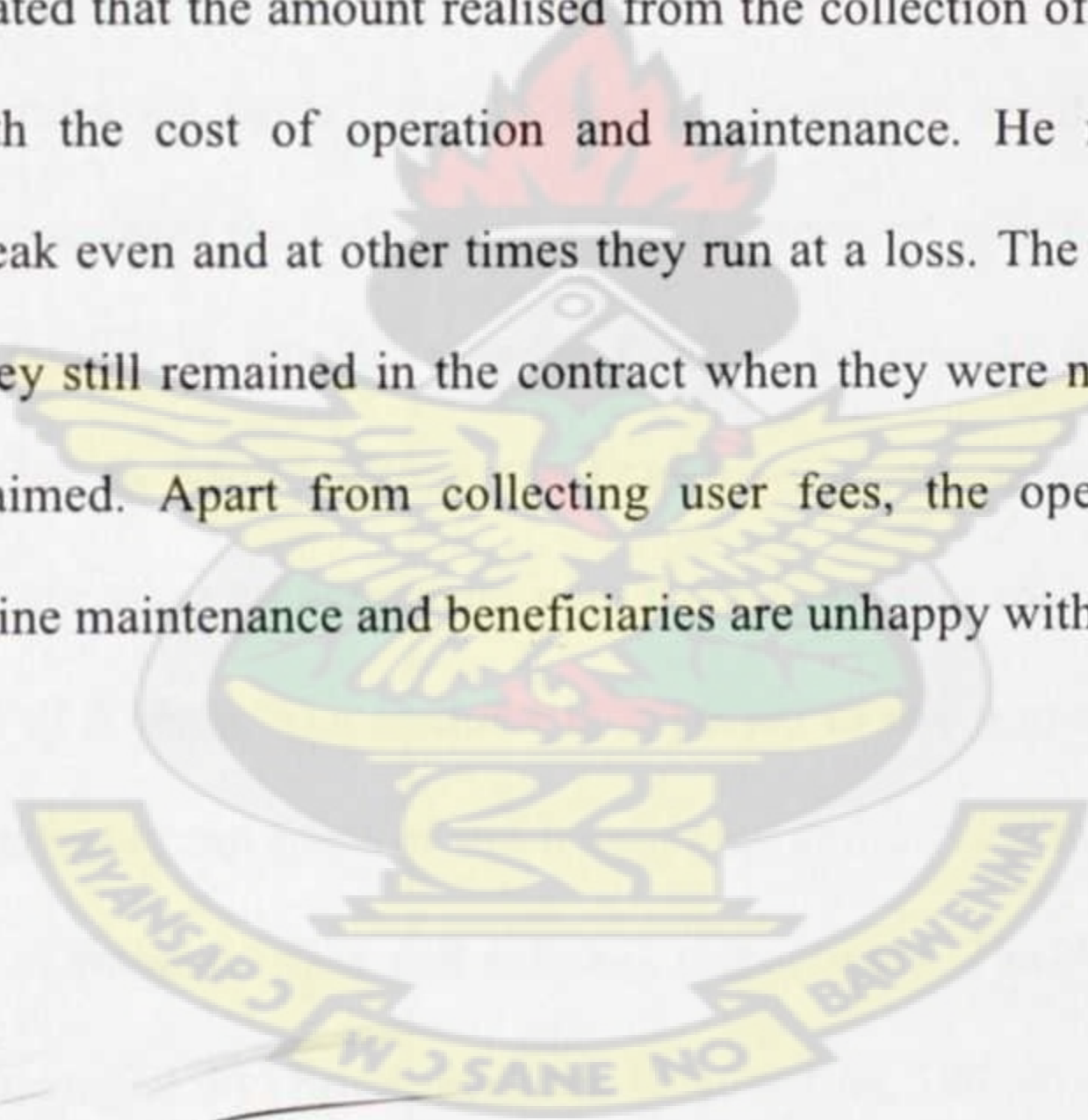
Aspect	Description
Political	No problems with change of government recorded
Socio-cultural	clogging and blockages as people tend to flush down sanitary pads, not prescribed anal cleansing materials , polythene bags
Financial	-system is managed with collection fees which causes companies to run at a loss -no external funding
Technical	-blockages from households

The disgruntled beneficiaries disagree with the monthly payments of user fees because, in their own opinion, KMA (whom they believe is responsible for the O&M) does not provide any services worth paying for. To the users, once they pay for the use of water every month, there is no need to pay for their toilet use. In their opinion, KMA does not come round to inspect their sewers occasionally and users need to pay for plumbing services, when the need arises. This they feel, is unfair and tantamount to extortion on the part of KMA.

12 out of the 15 Households interviewed had no idea how much they were charged for being connected to the sewer. This they attributed to the situation whereby the landlords/ladies add up the cost of sewerage to their water bills to pay every month. In effect, the land lords/ladies indirectly charge their tenants and in turn pay to the operators. The other 3 households stated that they were charged Gh¢5 every month.

According to the operator, there were too many instances of clogging within the property of beneficiaries. This necessitated the charging of repair fees to serve as a deterrent to users who abuse the use of the sewerage system.

The operator indicated that the amount realised from the collection of user fees does not match up with the cost of operation and maintenance. He recounted that sometimes they break even and at other times they run at a loss. The operator could not answer why they still remained in the contract when they were not making any profit, as they claimed. Apart from collecting user fees, the operator does no inspection and routine maintenance and beneficiaries are unhappy with that.



5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusion

Based on the information gathered and results obtained, the following conclusions were drawn from the study;

- The main partners in the PPP contract in KMA in sanitation are the assembly and the private investor. Within the BOT, the assembly provides the sanitary site and the designs for the construction of the toilet facility as per the contract agreement, while the private investor garners both financial and human resources to construct the facility. Once the system is constructed, the investor operates the facility for a period of 20 years in a bid to recover the investment cost from the collection of KMA-approved user fees after which period the facility is handed over to KMA. The private investor pays a monthly surtax to KMA. Within the Franchised management contract, the private operator signs an agreement with the assembly to manage the facility for a period of 2 years. The operator is expected to pay a monthly franchise fee to the assembly but most of the franchisees and private investors default in payment of franchise fees and surtaxes respectively. The Asafo sewerage system is managed by Environmental Engineering Ltd who finances the operations and maintenance of the facilities by the user fees collected.
- With regards to the partnership relationship, there are some issues of mistrust and opacity among the partners in the payment of surtax and franchise fees by private companies.
- Some major threats to the performance of the PPP are change of government as “foot soldiers” of the ruling government take over the management of the facilities and fail to render proper accounts to the Assembly. However, this

issue of political interference does not occur in the BOT and sewerage system management. The sewerage system operator's inability to make any profit from the revenue generated, sometimes affects the rate of routine maintenance of the facilities. Users use facilities under BOT more than those facilities under franchise management because of proper management.

Generally, involvement of the private investors has boosted sanitation infrastructure within KMA.

5.2 Recommendations

Based on the conclusions, the following recommendations have been suggested for policy development and to help enhance the ongoing PPP in sanitation in KMA and Ghana at large; and to improve the current sanitation service levels.

- . To enhance sanitation services delivery there is the need to increase sanitation coverage. This can be done by creating more avenues to bring more investors into the sanitation sector to implement BOT.
- . The KMA must come out with a clear policy on management of public toilets involving private sector participation to avoid political interference and also ensure accountability of franchisees.
- . KMA should regularly visit the public toilets to ensure they are operating within the contract agreements. There must be a system to ensure that KVIPs are regularly desludged and appropriate disinfectants used so as to increase accessibility of the facilities especially to women and children
- . The study revealed that, the number of users who patronised BOT facilities indicated that, people are ready to pay for better services.

Therefore, more improved technologies should be introduced to replace the KVIPs to accessibility and increase toilet use.

- . KMA must review the designs of the WCs and septic tanks to reduce the rate of desludging.
- . KMA must ensure that the operators of the sewerage system visit households to interact with them, and give technical advice and assistance regularly.

KNUST



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7 APPENDICES

7.1 APPENDIX 1 : LIST OF PLATES

7.2 Appendix 1(A) Methodology

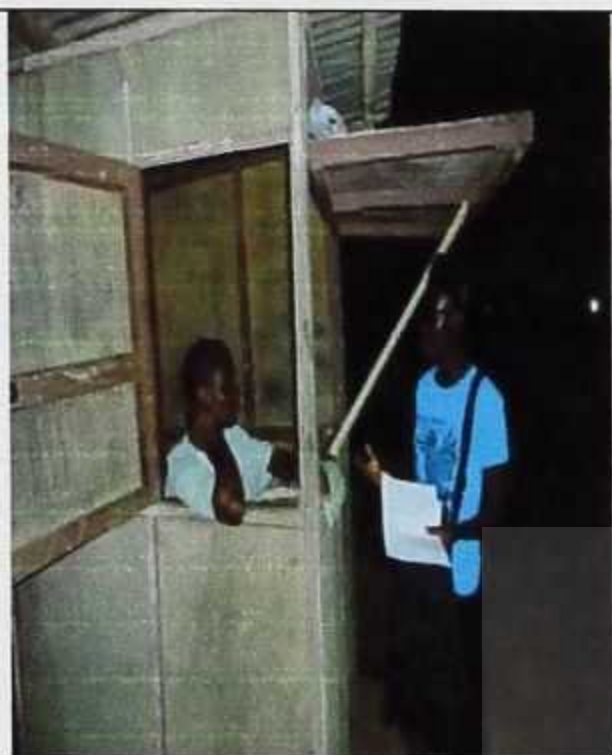


Plate 4 interview with Kotei Toilet Supervisor



Plate 5 Interview with Ayeduase Market Toilet Supervisor



Plate 6 Interview with Ayigya toilet Supervisor



Plate 7 Interview with Atonsu Toilet Supervisor



Plate 8 Interview with Amakom Market Toilet Supervisor



Plate 9 BOT Toilet Facility User interview

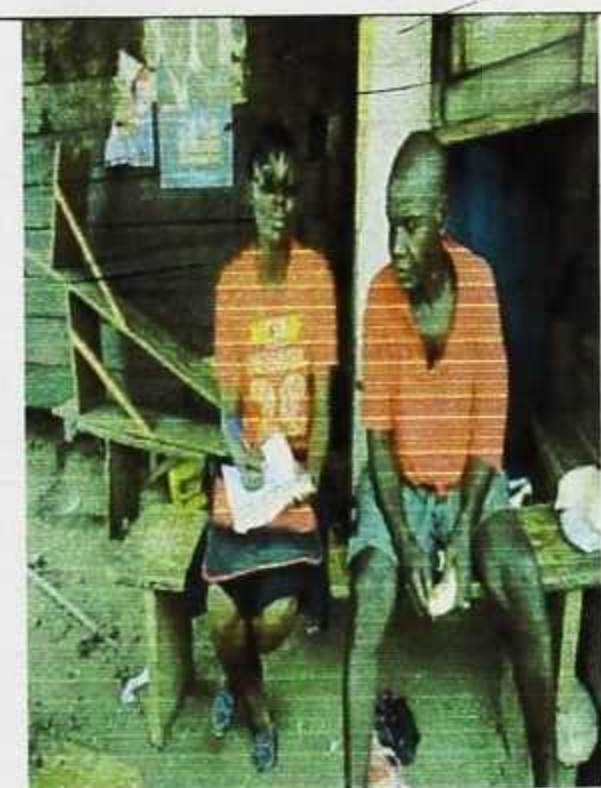


Plate 10 KMA Toilet Facility user interview



Plate 11 Interview with Amakom Toilet Supervisor



Plate 12 BOT Toilet facility User Interview

7.3 Appendix1(B)Asokwa Sub-metro

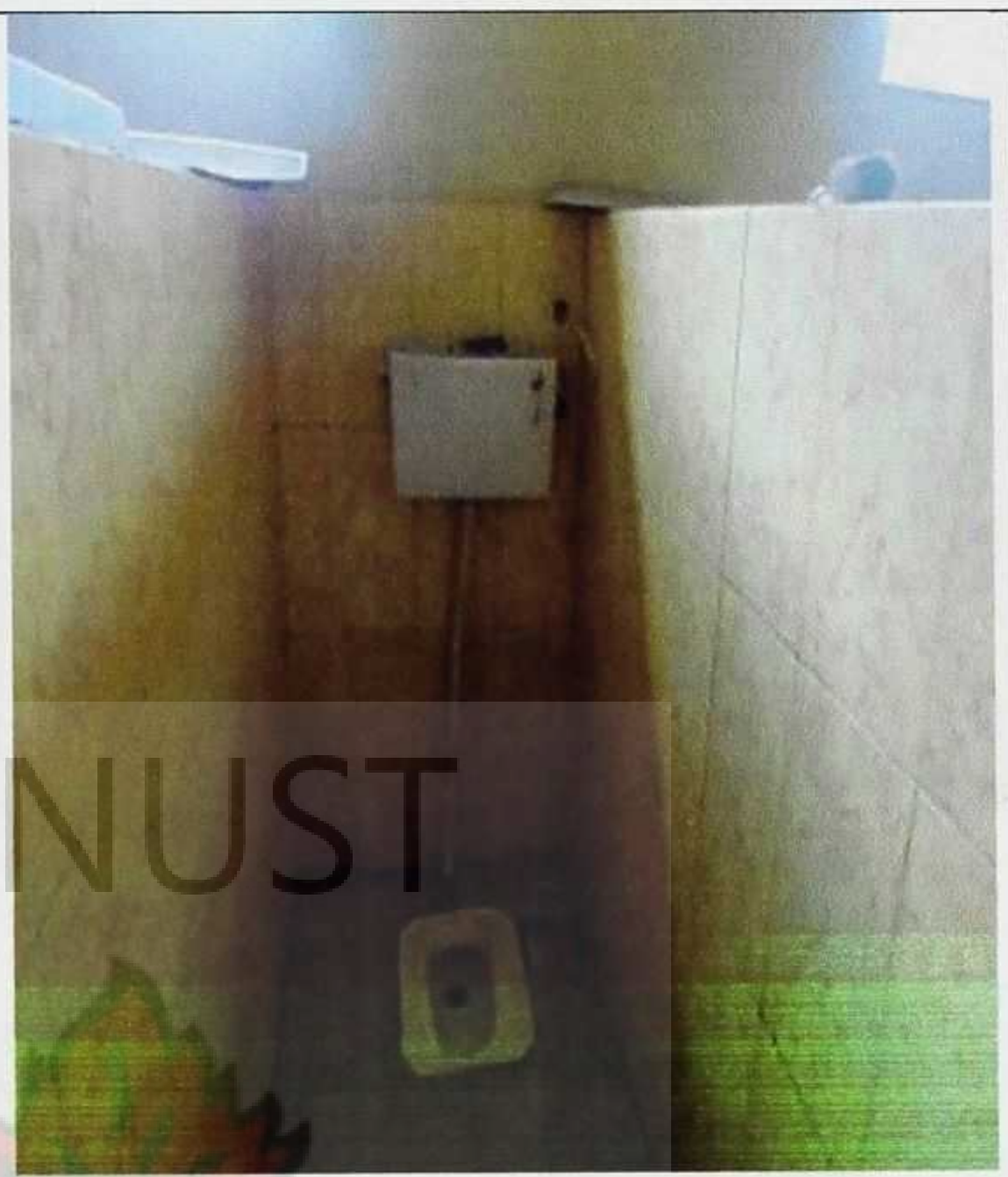


Plate 13 BOT Toilet Facility at Atonsu

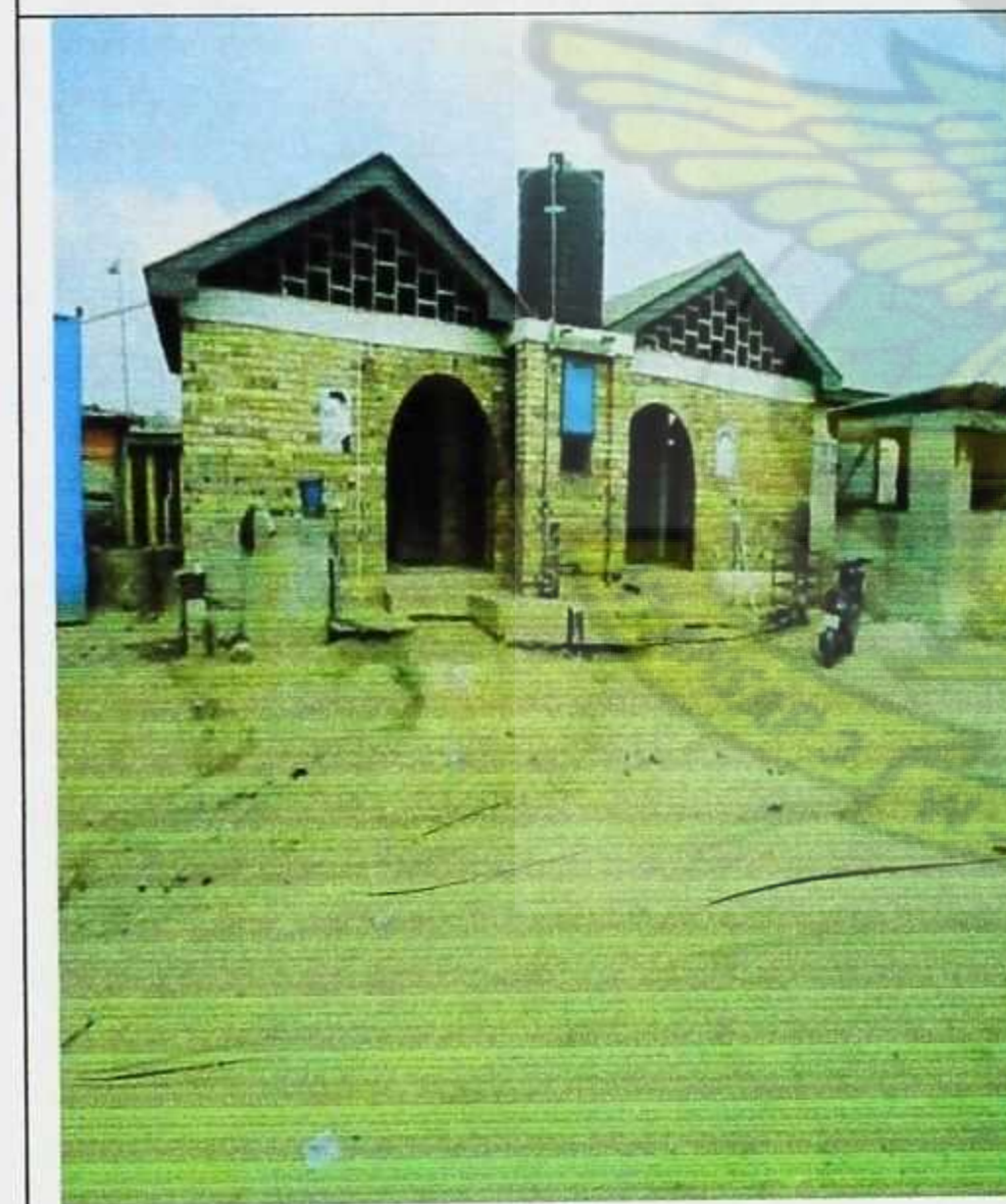


Plate 14 BOT Toilet Facility at Atonsu Pentecost

7.4 Appendix 1(C) Oforikrom Sub-metro



Plate 15 BOT Toilet Facility at Ayeduse market



Plate 16 BOT Toilet facility at Anloga main

7.5 Appendix 1(D) Subin Sub-metro

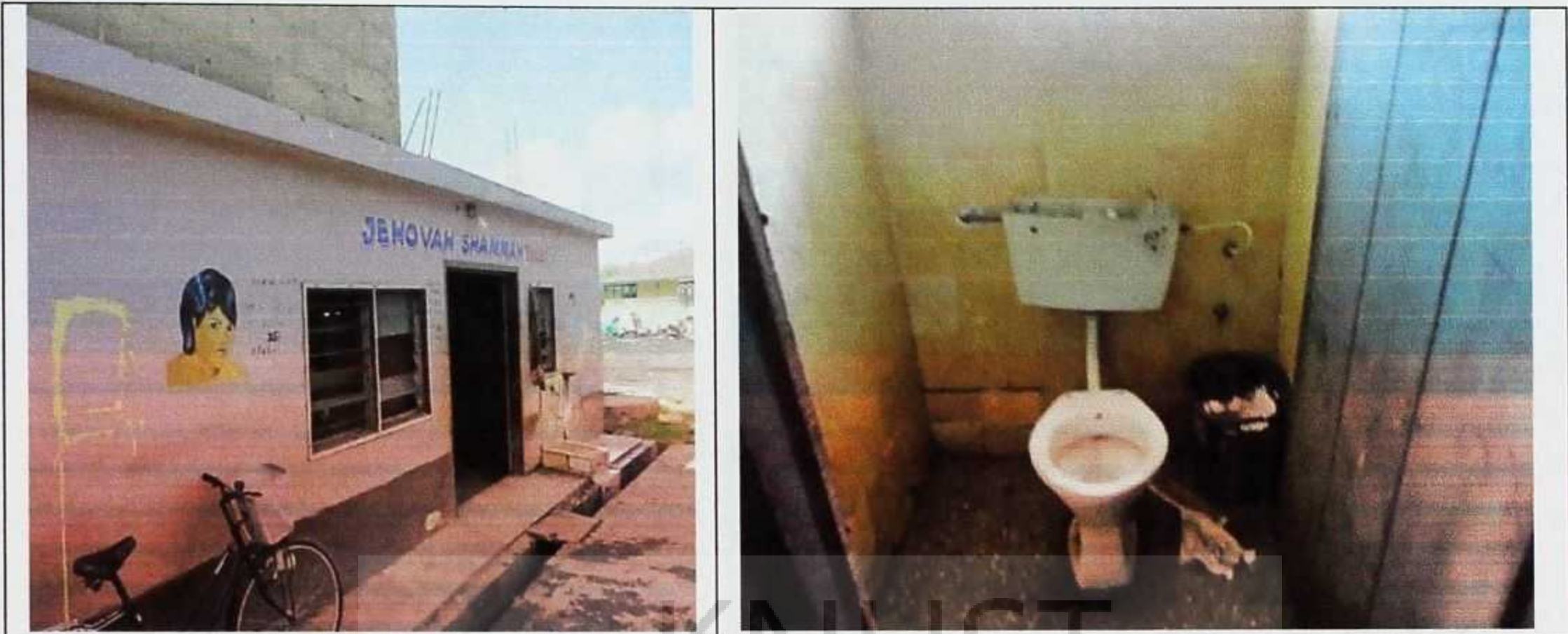


Plate 17 BOT Toilet facility at Amakom Market



Plate 18 BOT Toilet facility at Asafo labour

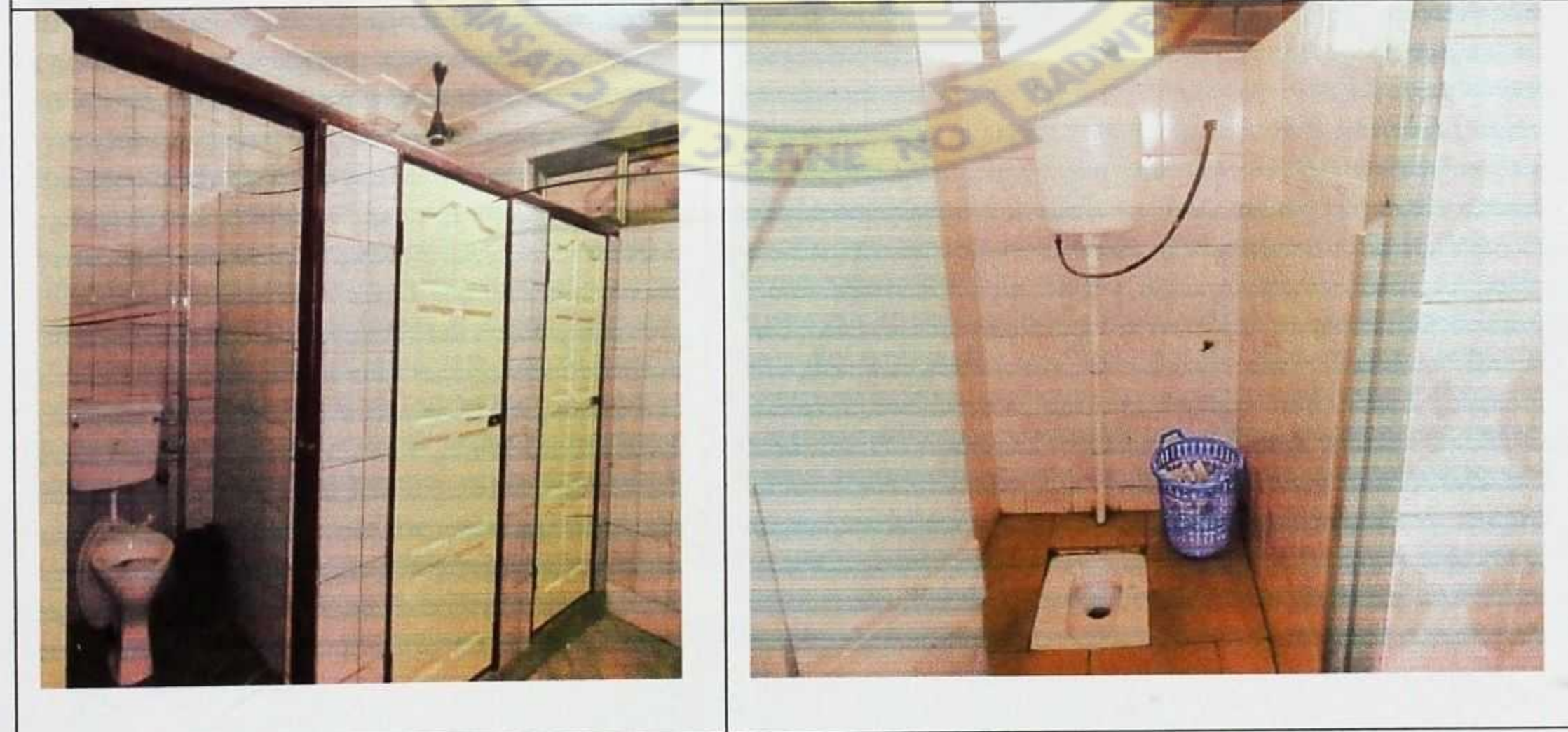


Plate 19 BOT Toilet Facility at Roman Hill

7.6 Appendix 1(E) KMA Toilets



Plate 20 KMA Toilet facility at Ayigya



Plate 21 KMA Toilet Facility at Kotei



Plate 22 KMA Toilet facility at Anwiam

7.7 APPENDIX 2: DATA COLLECTION TOOLS

7.8 2A. Interview Guide for KMA, Sub- Metros and Private companies (owners of facilities)

Actors and their roles

1. Who are the actors responsible for sanitation service provision in KMA?
2. What are their individual roles/ responsibilities?

Nature of contract

3. Is there formal contract between the actors in the partnership process?
4. What type of contract prevails in the partnership agreement?
5. What is the scope of the contract?(construction, rehabilitation, operation, etc)
6. What is the duration of the contract?
7. Is there provision for re-negotiations?
8. What is the share of the risk management? (investment, operational)
9. What are the main sources of funding?
10. Are there performance indicators to assess the partnerships? What are they?
11. Has the current contract model been successful?

Partnership relationship

12. How do you see the integrity, honesty and reliability of the private operators?
(Trust and confidence)
13. How do the partners commit to the partnership and its success?(financial, personnel, etc commitment)
14. How often does regular reporting among partners occur? (accountability)
15. Who accounts to whom? How is it done? Who supervises? (Power relation)
16. Is there fairness in the benefit distribution? Are you satisfied with the sharing of benefits? (Mutual benefit)
17. What criterion is used to share benefits?

Factors affecting partnership and service delivery *sociocultural*

18. How is the community involved in the decision-making?
19. How have the cultural values/practices of communities affected service delivery?

Legal

20. What are the newly introduced legislations, regulations and policies in the sector?
21. What are the fraud issues and non-compliance with laws and contracts?
22. Has there been any instance where an actor has breached the contract?
23. Has the contract been changed over the years?
24. How has the change affected the performance in the service delivery

Financial

25. Are there mechanisms for variations in the cases of fluctuation in inflations and interest rates?

26. Which actors suffer the most as a result of this?
27. What is the impact on service delivery?
28. What is the level of cost recovery?

Technical

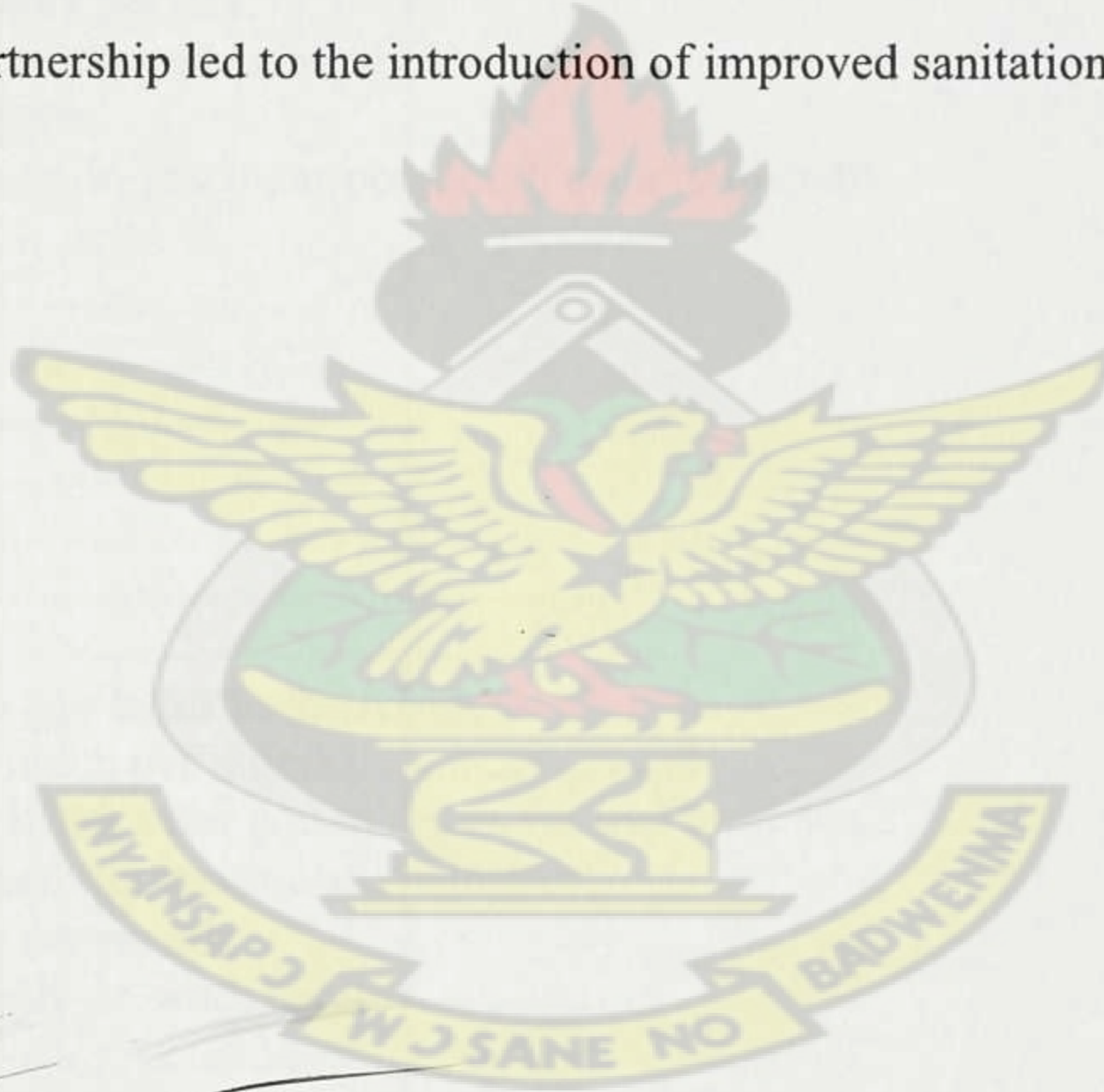
29. What are the factors that hinder effective and efficient functioning of facilities?

Political

30. How does change in government hinder the partnership delivery process?
31. Has any change in laws/policies affected the performance of the partnership?
32. How does the public sector interfere with the service delivery?
33. Have there been particular instances when change in government affected the partnership delivery process?

Outcomes of Partnership relationship

34. What are some of the qualitative outcomes of the partnership? (eg. improvement in sanitation, coverage, etc)
35. How has partnership enhanced capacity and influenced the individual partners?
36. Has the partnership led to the introduction of improved sanitation facilities?



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7.9 2B. Supervisors/Attendants of public latrines

Location of facility.....

Date.....

1. Sex of respondent:

male / female

2. What is your age: _____

3. What is the highest level of school which you have completed:

never / primary / junior secondary / senior secondary / university / other (specify).....

4. Who owns this public toilet:

a) KMA b) private contractor (name)

5. Since when have you been running this public toilet:

_____ months / _____ years

6. How much do you earn from user charges usually

a. _____ cedis per day / _____ cedis per month:

7. How much visitors per day do you have usually

_____ visitors per day:

8. What kind of users do you normally have?

a) Residents b) visitors

9. What kind of costs do you incur per month usually in cedis

a. salaries:.....

b. desludging:.....

c. soaps:.....

d. toilet paper:

e. water:.....

f. electricity: —.....

g. maintenance:.....

h. others (specify): —.....

10. Do you have to pay taxes to the KMA

a) no b) yes (how much per month):

11. What does the KMA offer you in return for that money:.....

12. What is your monthly income as contractor:

_____ cedis per month

13. How many people do work here:.....

a. no. of labourers:.....

b. no. Of tariff collectors:.....

c. no. of supervisors:.....

d. no. of operators/contractors:.....

15. What do users have to pay per visit:

_____ Cedis per visit

16. Are you satisfied with that price:.....

a) yes b) no (why not): _____

17. What type of services do you deliver for this money:

a) anal cleansing materials b) water c) soap d) towels c) other (describe) _____

18. Have these services changed during the years:

a) no b) can't tell c) yes (describe) _____

19. Would you introduce new services:

a) no b) yes (which services and what would be a fair price):

20. Are you interested in a paying system
a. per visit b. per day c. per week d. per month
21. Which members of the society are to be allowed in free or could be charged half tariffs
a. children: free/half tariffs
b. disabled: free/half tariffs
c. old people: free/half tariffs
d. others (describe) _____
22. Are some users unwilling to pay
a) no b) yes (who and why)
23. What do you do with users unwilling to pay.....
24. What kind of problems do you have to be aware of periodically
a) blockages b) leakages c) water shortage d) breakdowns of plumbing mechanism
e) desludging f) cleaning g) others (describe) _____
25. How can these problems be solved:.....
26. What are the opening hours of this public toilet
a. 24-hours per day b. 7-days per week c. Other (specify) _____
27. What's the difference between public toilets managed by KMA or managed by private contractors? _____
28. Do you interact with the KMA? _____
how frequently, hours per month: _____
on what subject: _____
with which person: _____
30. Who determines user charges:
a. KMA b. Supervisor (which method do you use): _____
c. Contractor _____
31. Who takes care of the desludging:.....
32. Who should take care of the desludging:.....
33. What do you have to pay for desludging:
_____ cedis per week:
_____ cedis per month:
34. What kind of record keeping system do you use:
a) none b) users a day c) money collect per day d) costs per day
35. Is there any association for operators?
a) no
b) yes (do you get benefit from them, what kind of benefit):
if no, are you interested in an association: yes / no
36. Do you receive any external financial support
a) no b) yes: KMA / World Bank / other (describe) _____
37. Do you think your services must be improved?
a) no b) yes (what kind of services do you like to introduce): _____
38. How can sanitation services in Kumasi be improved? _____

7.10 2C. Public Toilet Facility User Questionnaire

A. Survey Data		
1. .Date:	2. .Interviewer:	3. Questionnaire No:
4. Region :	5. Sub-Metro:	6. Area /Town:
B. Respondent and Household		
7. Sex: <input type="checkbox"/> M or <input type="checkbox"/> F	8. Age:	9. . What is the main religion of the household? <input type="checkbox"/> Christianity <input type="checkbox"/> Islam <input type="checkbox"/> Traditional <input type="checkbox"/> Other..... <input type="checkbox"/> None
10. What is your household or family size?		
11. How long have your family been in the house?		
12. Who is the main household breadwinner? (<i>the person who feeds or is in charge of the household's well-being</i>)		
13. <input type="checkbox"/> Male (<i>self, husband, father, son, brother, etc</i>) <input type="checkbox"/> Female (<i>self, wife, mother, daughter, sister, etc</i>)		
14. What is the educational level of the main household breadwinner? <input type="checkbox"/> Primary <input type="checkbox"/> Secondary <input type="checkbox"/> Tertiary <input type="checkbox"/> Others Please specify <input type="checkbox"/> None		
C. Household Wealth		
15. What is your status in the house? <input type="checkbox"/> Owner <input type="checkbox"/> A tenant <input type="checkbox"/> Rent free (Family relation, friend, other).		
16. . (Accommodation type) Do you live with another household in this house? <input type="checkbox"/> Shared <input type="checkbox"/> Not-shared		
17. What is the type of housing structure (by observation)? <input type="checkbox"/> Modern (block, brick, sandcrete blocks, and rendered house) <input type="checkbox"/> Traditional (Mud/thatched house, hut, tent, kiosk)		
18. What is the main economic activity of the household breadwinner? (i.e. main source of livelihood for the household) <input type="checkbox"/> Public sector employment <input type="checkbox"/> Private formal employment <input type="checkbox"/> Private informal employment..... <input type="checkbox"/> Cash crop farming..... <input type="checkbox"/> Food crop farming..... <input type="checkbox"/> Non-farm Self employment..... <input type="checkbox"/> Unemployed..... <input type="checkbox"/> Other.....		
D. Access and provision to Sanitation		
19. Do you have a household toilet? <input type="checkbox"/> Yes <input type="checkbox"/> No		
20. If Q19 is No, then where does the household defecate?		
<input type="checkbox"/> Public toilet (1) <input type="checkbox"/> Neighbour's toilet(shared) (2) <input type="checkbox"/> Dig and burry (3) If (1) go to 21		
<input type="checkbox"/> Open defecation (4) <input type="checkbox"/> Other..... If (3 or 4) go to 32		
Public Toilets Users		
21. What type of public toilet technology(ies) does our household have access to? <input type="checkbox"/> WC <input type="checkbox"/> KVIP <input type="checkbox"/> Aqua Privy <input type="checkbox"/> VIP <input type="checkbox"/> Other, please specify.....		
22. Does your household pay to use public toilet? <input type="checkbox"/> Yes <input type="checkbox"/> No		
23. How much do you pay to use the public toilet? (per visit)Gp/.....		
24. How many members of your household pay to use the public toilet?.....		
25. What is your impression about public toilet user fee? <input type="checkbox"/> High <input type="checkbox"/> Acceptable <input type="checkbox"/> Low		

26. What is your impression about cleanliness of the public toilet(s)?

☐ Very clean ☐ Fairly clean ☐ Poor

27. What are the reasons for your rating?

28. Are there queues? ☐ Yes ☐ No

29. How long do you queue

☐ 0 – 10 mins ☐ 11 – 20 mins ☐ 21- 30 mins ☐ more than 30 mins.....

30. Is there Odour ☐ Yes ☐ No

Is there lighting ☐ Yes ☐ No

31. If Q20 is (3 or 4), then why this practice by the household? (tick all applicable responses)

(1) They are free

(2) Cannot afford household toilet construction

(3) House toilet is available but it is in a poor/dilapidated condition

(4) House toilet is available but does not function

(5) Neighbour's toilet facility not allowed to be shared

(6) Public toilet is available but it is uncomfortable to use

(7) Public toilet is available but it is too far from the house

(8) Cannot afford the toilet user fee (for public toilet)

(9) No public toilet is available

(10). Public toilet not of acceptable technology

(11) Other.....

32. How would you rate their performance of the private operator?

☐ very impressive ☐ impressive ☐ fairly impressive ☐ unimpressive

33. What are your reason(s) for using this facility?(pls tick as many as are applicable)

☐ Accessibility

☐ Reliability

☐ Less/no odour

☐ Cleanliness

☐ fair charges

☐ The only facility in the area

7.11 2D. Interview Guide for users of the sewerage system.

Name:

Age:

Level of education

Location of facility:

1. Are you connected to the sewerage system?

☐ Yes ☐ No

2. Who is responsible for operation and maintenance of the sewerage system?

3. What is the payment arrangement? (per month/ year/ etc.)

4. How much do you pay for being connected to the sewerage system?per month/year

5. In your opinion, how satisfied are you with the sanitation services provided?

☐ Extremely dissatisfied ☐ Poor service with room for improvement

☐ Neutral- no opinion ☐ Satisfied but room for improvement ☐ Extremely satisfied- no problems

6. State reasons.....

.....
.....

7. Have you had recent blockages or overflow of sewerage outside your property/street?

☐ Yes ☐ No

8. Have you had a complaint in the last 3 months regarding sanitation provision or your sewerage system?

☐ Yes ☒ No

9. Do you have any suggestion on how to improve sanitation services to your household?

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

7.12 APPENDIX 3 : SAMPLE FRANCHISE AGREEMENT

Franchise Agreement for the Operation and Maintenance of Public Toilet at Kotei in Oforikrom Sub Metro Council.

THIS AGREEMENT is made this ***** day of *****, ***** between the OFOROKROM SUB-METROPOLITAN COUNCIL of the Kumasi Metropolitan Assembly, Ashanti Region of the Republic of Ghana (hereinafter called the "ASSEMBLY" (FRANCHISOR) which expression shall where the context so admits or requires include its successors-in-office and assigns) of the one part and KOTEI COMMUNITY MANAGEMENT COMMITTEE (the "CMC") of P. O. Box ***** (hereinafter called the "FRANCHISEE" which expression shall where the context so admits or requires include its successors-in-interest and assigns) of the other part.

WHEREAS:

- a) The Kotei Community Management Committee (CMC), which takes its legal authority from the Oforikrom Sub-Metropolitan Council which derives its authority from the Kumasi Metropolitan Assembly has direct interest in the delivery of sanitation services in a sustainable manner.
- b) Water and Sanitation for the Urban Poor (WSUP) with funding from the USAID has worked with Oforikrom sub metro and the Kotei Community management Committee (CMC) to provide a public toilet for the Kotei community.
- c) The Assembly intends to franchise the operation and maintenance of the public toilets at the following sites:
*Kotei *****

- d) The Franchisee, having presented to the Assembly that they have the required expertise, personnel, financial and technical resources, have agreed to provide the said operation and maintenance services (hereinafter called the "Services") on the terms and conditions set forth in this Agreement;

NOW THEREFORE THIS AGREEMENT WITNESSETH as follows:

Article 1: General Provisions

- 1.1 Unless the context otherwise requires, the term "Toilet" in this Agreement shall mean all installations associated with the public toilet including, Ladies and Gents Sections, Urinals, Store Rooms, all fixtures and associated fittings contained within the facility; the exterior of the building and any associated garden areas excluding any sanitary sites for refuse containers.
- 1.2 Any notice, request or consent required or permitted to be given or made pursuant to this Agreement shall be in writing. Service of all notices under this Agreement from one party to the other shall be sufficient if hand delivered, express couriered or mailed by registered or certified mail to the specified address of the other party. Notices delivered

by dated fax, telex, telegram or e-mail shall be followed by hard copy delivered by hand, express courier or registered or certified mail. Notice will be deemed to be effective as follows:

- a) In the case of personal delivery or registered mail, on delivery;
- b) In the case of telexes or facsimiles' six hours following confirmed transmission;
- c) In the case of telegrams or e-mails, twenty-four hours following confirmed transmission.

A Party may change its address for notice hereunder by giving the other Party of such change pursuant to this Clause.

- 1.3 The designated officials and the addresses, telephone and facsimile numbers to be used in communicating and providing all notices required under this Agreement are as follows:

For the Assembly:	For the Franchisee:
Official: Director, Waste Management Dept.	Official: *****
Address: P. O. Box 1916	Address: *****
Telephone: 03220 23991	Telephone: *****
Facsimile: 03220 23184	Facsimile: *****
e-mail: mensahanthony@hotmail.com	e-mail: *****

- 1.4 The Franchisee/Operator and the Assembly agree that the Operator is an independent entity and not an employee or agent of the Assembly. Nothing herein shall be construed as creating a partnership, agency, joint venture or similar relationship between the Operator and the Assembly. The Operator shall be fully and solely responsible for its own acts and omissions and those of its employees, officers and agents.
- 1.5 This Agreement, its meaning and interpretation, and the relation between the Parties shall be governed by the Laws of Ghana and relevant Bye-Laws of the Assembly.
- 1.6 The Franchisee and its agent, the Operator and its personnel shall pay necessary taxes, duties, fees and other impositions levied under the Laws of Ghana and relevant Bye-Laws of the Assembly.
- 1.7 No provision of this Agreement can be waived except by written consent from the Assembly's Officer. Any forbearance or indulgence by the Assembly shall not constitute a waiver of any covenant or condition. The Assembly shall be entitled to invoke any remedy available to it to address any inadequacy in performance, despite any forbearance or indulgence.
- 1.8 The headings shall not limit, alter or affect the meaning of this Agreement. The use and order of titles and headings within this document is for ease of reference.
- 1.9 Copyright of maps and specifications for equipment and/or facilities specifically procured or built for the purposes of conducting the Services under this Agreement shall remain with the Assembly.

Article 2: Period of Agreement

- 2.1 The date of commencement of this Agreement is the ***** day of *****.
- 2.2 This Agreement shall be for a period of Two years from the date of commencement of this Agreement.

Article 3: Scope of Services

- 3.1 The Services shall comprise the operation and maintenance of the Kotei public toilet listed above, and shall include the following:
- a) Maintenance of the toilets and all fixtures and fittings in good working order;
 - b) Daily opening of the toilets to the public from ***** a.m. to ***** p.m;
 - c) Maintenance of hygienic conditions at the toilets through regular cleaning and disinfection of the toilets;
 - d) Desludging of the toilets as and when necessary;
 - e) Maintenance of the area surrounding and forming part of the facilities in a clean and hygienic condition;
 - f) Collection of user fees and prompt payment of relevant bills;
 - g) Protection of the toilets from abuse and acts of vandalism.
- 3.2 The Services shall be carried out in accordance with any relevant guidelines issued by the Government of Ghana or the Assembly.

Article 4: Obligations of the Franchisee

- 4.1 The Service Provider shall at all times maintain at least the minimum requirements of personnel and equipment specified in Appendix I to this Agreement assigned exclusively to the provision of the Services.
- 4.2 The Service Provider shall at all times maintain at post the Key Personnel specified and named in Appendix II to this Agreement, and may only change them subject to prior written approval of the Assembly.
- 4.3 The Service Provider shall maintain detailed and regularly updated lists of all staff employed for the service, including professional credentials and assigned duties for each staff member.
- 4.4 The Service Provider shall provide appropriate protective shoes, masks and gloves to all workers for use at all times during the performance of Services under this Agreement.
- 4.5 The Service Provider shall maintain Workman's Compensation and Employee's Liability insurance to cover immediate expenses and long-term costs, including loss of income, related to injury and disability sustained during and from work operations.
- 4.6 All operational personnel shall be screened at least every three months for the infections to which they are potentially exposed by the handling of faecal material. All such infections identified shall be reported to the Assembly and treated. Vaccinations against relevant infections shall be given.
- 4.7 The Franchisee shall ensure that the interior of the toilet is cleaned as often as necessary and at least six times daily. The interval between cleanings shall not exceed 2 hours. Cleaning shall include cleaning of floors with water, soap and disinfectants, cleaning of walls and disposing of used anal cleansing materials into the toilet. Under no circumstances shall used anal cleansing materials be left exposed inside the toilet cubicles. Cleaning shall be done to ensure that the inside of the toilet is free from flies and odour at all times.
- 4.8 The Franchisee shall undertake daily cleaning of surroundings. This shall include sweeping of surroundings and attending to any surrounding garden areas, excluding sanitary sites. Weeding shall be done at least once a month and as often as weeds overgrow.
- 4.9 The Franchisee shall at all times ensure availability of water and soap for cleaning and hand washing purposes.

- 4.10 The Franchisee shall at all times ensure availability of toilet paper
- 4.11 The Franchisee shall undertake regular inspection of the toilet, particularly the level of sludge in the holding tank and ensure prompt desludging when the freeboard is reduced to 30cm or less.
- 4.12 Liquid effluent shall be disposed of by subsurface infiltration or to a sanitary sewer. No liquid effluent shall be discharged at ground level or to any other drains apart from a soakaway system.
- 4.13 The Franchisee shall undertake regular checking of all flushing, plumbing and electrical systems and fixtures and ensure their prompt restoration in case of defect.
- 4.14 The Franchisee shall ensure that adequate nocturnal lighting is provided whenever the toilet is open to the public during the hours of darkness.
- 4.15 The Franchisee shall undertake annual painting of the toilets.
- 4.16 The Franchisee shall undertake monthly structural inspection of the toilets for defects and undertake any minor repairs or major structural repairs where necessary. Inspection and repair shall include walls, roof, doors, windows, vent pipes, floors and slabs, holding tanks, etc.

Article 5: Fees

- 5.1 User fees shall be subject to approval by the Assembly. The Franchisee shall be entirely responsible for the collection of the approved user fees.
- 5.2 The Franchisee shall make monthly payments to the Sub Metro Council Assembly by the 15th of each month of ***** Cedis (¢*****), calculated as in Annex III to this Agreement, as Franchise Fees. Payments made after this date shall attract interest at the prevailing rate for short term loans by the Assembly's bank.
- 5.3 The Franchise Fee shall be subject to annual review by the Assembly in conjunction with the Franchisee, with any mutually agreed adjustment being made on the anniversary of the Agreement. In addition, either of the Parties may call for a review and adjustment of the Franchise Fee if it can be shown that it should vary by 10% or more, calculated according to Annex III attached hereto.
- 5.4 User fees and costs for utility and desludging services shall be adjusted in accordance with the rates approved by the responsible agencies.

Article 6: Force Majeure

- 6.1 For the purposes of this Agreement, 'Force Majeure' means an event which is beyond the reasonable control of a Party and which makes a Party's performance of its obligation under the Agreement impossible or so impractical as to be considered impossible under the circumstances.
- 6.2 The failure of a Party to fulfil any of its obligations under Agreement shall not be considered to be a breach of, or default under this Agreement insofar as such inability arises from an event of Force Majeure, provided that the Party affected by such an event,
 - (a) has taken responsible precautions, due care and reasonable alternative measures in order to carry out the terms and conditions of this Agreement, and
 - (b) has informed the other Party within 7 days about the occurrence of such an event.
- 6.3 Any period within which a Party shall, pursuant to this Agreement, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.

Article 7: Monitoring

- 7.1 The Franchisee shall allow staff of the Assembly, or any monitor designated by the Assembly to have access at all times to the toilets and the Franchisee's offices or other working premises, to inspect work being carried out under this Agreement and to inspect all relevant records and documents maintained by the Franchisee.
- 7.2 The Assembly will monitor at least the following items, with at least the frequency stated:
- (a) As required: Sludge levels and desludging, effluent discharge arrangements;
 - (b) Daily: Cleanliness of toilet and environs, other general nuisance factors, Health hazards, availability of utilities;
 - (c) Weekly: Site security;
 - (d) Monthly: Availability of materials and tools, operating schedule, management, public health awareness;
 - (e) Quarterly: Structural integrity of the toilets, rate of usage.
- 7.3 The Franchisee shall attend, at the request of the Assembly, quarterly or other extraordinary meetings to discuss operational and other issues of mutual interest.

Article 8: Obligations of the Assembly

- 8.1 The Assembly shall maintain or cause to be maintained all sanitary sites adjacent to the toilets in a clean state, free from refuse or litter and shall prevent the spread or overflow of waste from such sanitary sites to the toilets.

Article 9: Sanctions

- 9.1 No provision of this Agreement can be waived except by written consent from the Assembly. Any forbearance or indulgence by the Assembly shall not constitute a waiver of any condition. The Assembly shall be entitled to invoke any remedy available to it to address any inadequacy in performance, despite any forbearance or indulgence.
- 9.2 If the Franchisee fails to fulfil any of his obligations under this Agreement, the Assembly may issue a Written Instruction to the Franchisee to rectify the default. If the Franchisee fails to rectify the default within 48 hours or any such longer period as may be specified in the said Written Instruction, the Assembly may issue a Default Notice.
- 9.3 Upon issue of a Default Notice, the Assembly may impose a fine as specified in Annex IV.
- 9.4 Discharge of effluent other than by subsurface infiltration or to a sanitary sewer, or any location approved by the Assembly shall result in instant fine of ***** cedis (¢*****) per offence and the issue of a Default Notice.

Article 10: Termination

- 10.1 The Assembly may only terminate this Agreement on the following conditions:
- (a) If the Franchisee does not perform satisfactorily and has been issued with three (3) Default Notices in twelve (12) months or one Default Notice in first four (4) months of commencement.
 - (b) If the Franchisee has defaulted in the payment of the monthly franchisee fees to the Assembly for three consecutive months without prior approval from the Assembly.
 - (c) If the Agreement has not commenced 30 days after the commencement date specified in the letter of award to the Franchisee.
 - (d) For any other cause deemed reasonable by the Courts or Arbitrator.

10.2 The Franchisee may terminate this Agreement on the occurrence of any of the following:

- (a) If the Assembly breaches any of the stipulations regarding its part in this Agreement and fails or refuses to remedy the breach after notice to that effect has been served.
- (b) For any other cause deemed reasonable by the Courts or Arbitrator.

Article 11: Settlement of Disputes

11.1 The parties to this agreement shall use their best endeavours to settle amicably any disputes that may arise between them.

11.2 If the parties are unable to settle the dispute amicably, they shall go into arbitration. They shall agree upon and appoint a single arbitrator to hear and determine the dispute. If the parties cannot agree upon an arbitrator, either of them may apply to the Courts for the appointment of such arbitrator.

11.3 The decision of the arbitrator shall be final and binding on the Parties, and either party may apply to the Courts for enforcement of the decision.

IN WITNESS WHEREOF the Parties hereto have hereunto set their respective hands and seals the day and year first above written.

Kumasi Metropolitan Assembly

Name: **Hon. Samuel Sarpong**
Title: **Metropolitan Chief Executive**

WITNESSED BY:-

Name: **Mr. Edward Afari Gyem**
Designation: **Metro Coordinating Director**

Name:
Title: **C. M. C. Chairman**

WITNESSED BY:-

Name:

Designation:

LIBRARY
KWAME NKRUMAH
UNIVERSITY OF SCIENCE & TECHNOLOGY
KUMASI

7.13 APPENDIX 4 : REQUEST FOR APPROVAL TO IMPLEMENT PAYMENT OF SEWERAGE MAINTENANCE FEES BY BENEFICIARIES

KUMASI METROPOLITAN ASSEMBLY WASTE MANAGEMENT DEPARTMENT

MEMORANDUM

TO: Metro Chief Executive
KMA/WMD/DISP/10/26
Thro': Metro Coordinating Director

Ref.:

FROM: Director, WMD

Date: August 11, 2010

SUBJECT: REQUEST FOR APPROVAL TO IMPLEMENT THE PAYMENT OF
SEWERAGE MAINTENANCE FEES BY BENEFICIARIES OF
ASAFO SEWERAGE SYSTEM

The beneficiaries of the Asafo Sewerage System have not been paying any amount towards the maintenance of the facility. The Assembly has been footing all the cost of operation and maintenance since the installation of the facility. Recently, a decision was taken by the Assembly to introduce the payment of Sewerage Maintenance Fees by the beneficiaries which has subsequently been captured in the Fee Fixing Resolution.

Upon consistent and intensive public sensitization and education by the Waste Management Department, beneficiaries have unanimously agreed to pay between GH¢5.00 and GH¢30 for commercial properties and GH¢ 3.00 for domestic properties per month.

Furthermore, the department has conducted a mini survey to establish the numbers of commercial properties, domestic houses and the potential revenue to be realized at the end of each month as shown in the table below.

No.	Description	No of Properties connected	Monthly User Fee per property (GH¢)	Amount (GH¢)
1	Hostels	6	25.00	150.00
2	Transport Associations	5	15.00 – 40.00	135.00
3	Public Toilets	6	30.00 – 40.00	180.00
4	Educational Institutions	4	30.00 – 50.00	185.00
5	Hotels	6	15.00 – 50.00	115.00
Sub Total 1				762.00
7	Domestic Houses	300	3.00	900.00
Sub Total 2				900.00
Grand Total Revenue				1,662.00
Operation and maintenance Cost per Month				1,300.00
Revenue Collection Cost per Month				362.00
Grand Total Cost				1,662.00

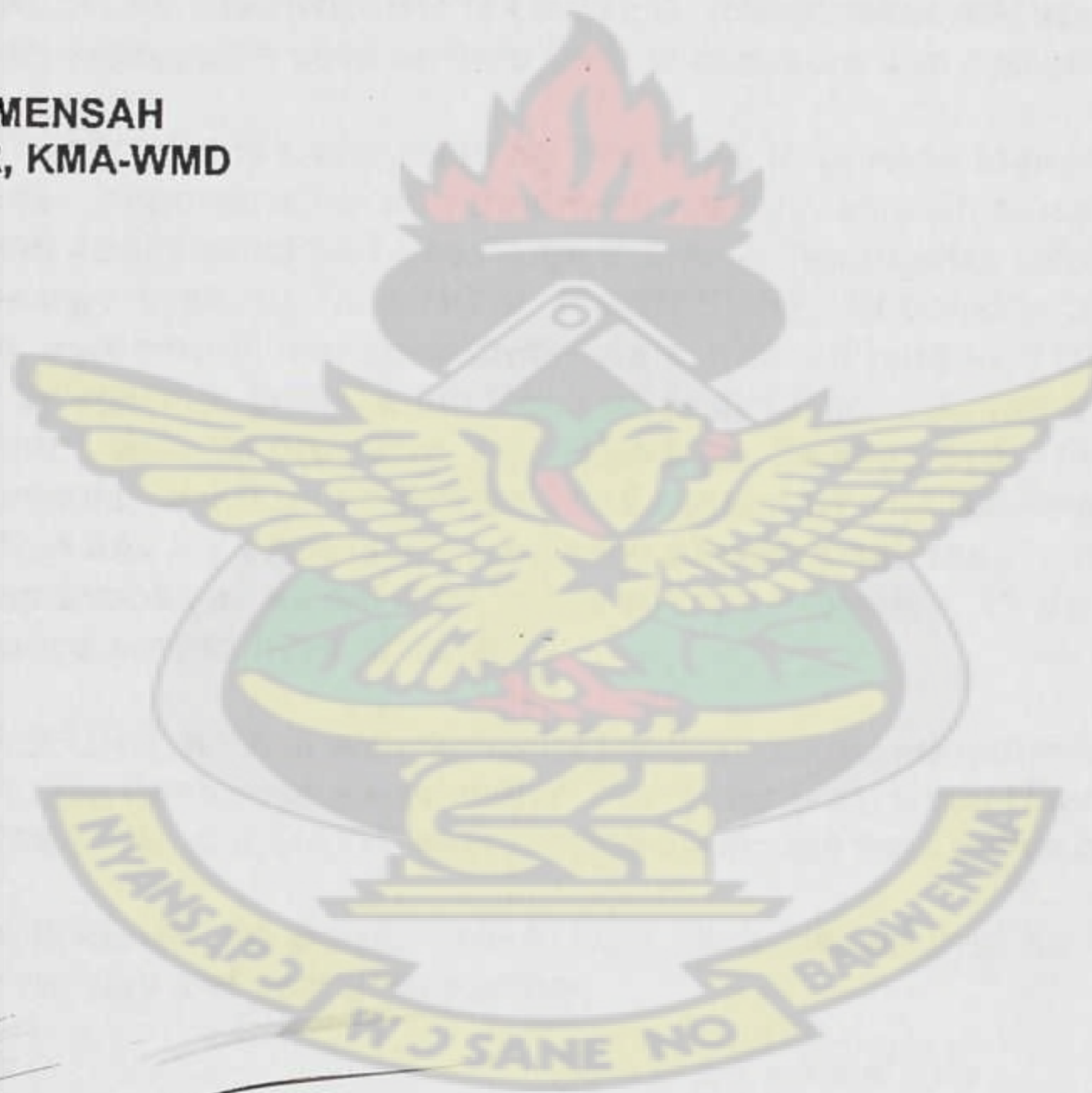
The sewerage system was franchised to Messrs. Environmental Engineering Limited (EEL) to carry out the operation and maintenance activities, which was supposed to be financed from the beneficiaries' monthly payments. However, they were uncooperative in the payment of the said fees hence the direct payment GH¢1,300.00 monthly by the Assembly up to now.

Approval is therefore being sought to commission the Operating and Maintenance Contractor – Messrs Environmental Engineering Limited to commence the collection of the Sewerage Maintenance fees as presented in the above table effective 1st September 2010.

It is envisaged that the Assembly could break even by this approach and the financial burden of paying the company would no more be dreamt about.

Submitted for your consideration and approval please.

ANTHONY MENSAH
(DIRECTOR, KMA-WMD)



7.14 APPENDIX 5 : SAMPLE CONTRACT AGREEMENT FOR OPERATION AND MAINTENANCE OF SEWERAGE SYSTEM

CONTRACT AGREEMENT

CONTRACT FOR MAINTENANCE OF ASAFO PILOT SEWERAGE SCHEME

This agreement made and entered into thisday of2009 BY,
AND BETWEEN.

The Kumasi Metropolitan Assembly (KMA) hereinafter called the assembly
(organized under the laws vested in the Assembly, derived from various parts and
sections of Local Government Act 1993.

(ACT 462), Specific to part one section 4 (2) and also Local Government (Kumasi
Metropolitan Assembly) 1995, Second schedule, Paragraph 3 (2), (sub section 6)
AND ENVIRONMENTAL ENGINEERING LIMITED. (Hereinafter referred to us the
'Contractor' which expression shall include their successors and assignees).

WHEREAS, the Contractor is Contracted By The KMA to provide Maintenance
services for sewers, appurtenance and treatment plant (Waste Stabilization
Ponds) of the Pilot Asafo simplified Sewerage Scheme, hereinafter referred to as :
(The Asafo Sewerage System): "and NOW, THEREFORE, IN consideration of the
mutual covenant, agreement, and considerations contained here in, THE KMA and
Contractor here by agree to perform the Contract in strict accordance with this
Contract Agreement, Special provision, Specifications, Existing bye – laws and
legislative instruments, and it be understood and agreed by and between KMA and
The Contractor that this Agreement shall become effective and the Contractor
shall assume responsibilities as set forth in the special Provision, 15 days after the
execution and notice served here of : and.

FURTHER THEREFORE, KMA in satisfaction of the Contractors performance will
cause payments to the Contractor an amount of Two Thousand, Three Hundred and
Forty Eight Gh. Cedis,. (Gh¢ 2,348.00) every month during the term of this contract.

IN WITNESS WHERE OF, the parties here to have here unto set their hand and
affixed their seal, this day and year above written.

.....
For and on behalf of the
Kumasi Metropolitan Assembly

.....
By or for and on behalf of the
Contractor

In the presence of

In the presence of

Name:

Name:

Address:

Address:

Description:

Description:

7.15 APPENDIX 6 : SAMPLE LABORATORY ANALYSIS RESULTS FOR ASAFO WASTE STABILIZATION POND

Kumasi, Ghana, Department of Civil Engineering

WATER RESOURCES AND ENVIRONMENTAL SANITATION PROJECT
Netherlands sponsored project in cooperation with IHE-Delft



Tel/Fax: +233-51-60235

e-mail: wsep@africaonline.com.gh

April 11, 2006

Environmental Engineering Ltd
Kumasi

Dear Sir

Please find below the result and report on the wastewater of the Asafo Wastewater stabilization ponds characterized at the Environmental Quality Engineering laboratory, K.N.U.S.T.-Kumasi

REPORT ON ASAFO PILOT WASTE STABILIZATION POND

PARAMETERS	INFLUENT	EFFLUENT	TREATMENT EFFICIENCY %
pH	7.31	8.25	-
BOD mg / l	920	220	76.1
COD mg / l	1250	610	51.2
Total Nitrogen mg / l	18.9	18.6	1.6
Ammonia mg / l	55.2	40.8	26.1
Suspended Solids mg / l	599	152	74.6
Nitrate mg / l	2.6	2.5	3.9
Nitrite mg / l	0.019	0.018	5.3
Phosphate mg / l	44.5	38.5	13.5
Feacal Coliforms n/100	92.0×10^6	98.2×10^4	99.0

COMMENTS

The ponds seems to be performing fairly well. The values of BOD and COD shows that the organic loading of the ponds is becoming stable. The treatment efficiency of Organic Nitrogen, Nitrite, and Nitrate have improved, compared to the previous result.

Signed

[Signature]
Mr. J.K. Bruce
(Chief Technician)
EQE Lab KNUST.
K. N. U. S. T.