

# IMPROVING REFUSE COLLECTION IN DISTRICT ASSEMBLIES THROUGH OUTSOURCING TO PRIVATE AGENTS: A CASE STUDY OF KUMASI METROPOLITAN ASSEMBLY

By

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# KNUST

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## DECLARATION

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

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## DEDICATION

This work is dedicated to the late Mr. S. T. Asamoah my father's brother for his great contribution for my life and my other siblings. May the lord keep you safe until we meet again.



## ACKNOWLEDGEMENT

First of all, I am extremely grateful to the Most High God who gave me strength and guided me through this course.

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To all my group members for their support through my course, God bless you for the team spirit.

To my wife and daughter, and all friends, I owe you all a debt of gratitude, may God pour his blessings on all of you for your diverse contribution in my life.

## ABSTRACT

Good sanitation practices and management in several developing countries have been very elusive. Consequently, a lot of filth continues to engulf many countries in Africa and parts of Asia and South America with our country Ghana as no exception. The problem of poor sanitation in Ghana is in part due to the attitude of the people towards cleanliness especially the lack of appreciation for hygiene and good sanitary practices. This could be linked to their social, cultural and moral upbringing. Littering with impunity is very pervasive among the populace notwithstanding the availability of KMA bye-laws on street littering and sanitation. There have been other several policy initiatives to deal with the city's sanitation condition over the years by top officials of the assembly under different government regimes to keep the city clean. The study used the non probability method and adopted convenience sampling, judgment sampling and quota sampling to determine the sample size. It was discovered that outsourcing as strategy was adopted by the assembly to manage their refuse collection mandate for them and was found to be sustainable. This strategy was also discovered to have the propensity to help rid the city and its environs of filth. Even though this strategy has proven to be successful for undertaking this venture but largely not without associated problems. These problems were identified as mainly financial constraints, inefficiency of policy makers and politics. Conclusions derived from the results of the research include the view that refuse collection and its associated management can best be handled by outsourcing to private agents since some of them have the capacity to handle this kind of endeavour. Some companies like Zoomlion, have proven beyond reasonable doubt that they are more than competent to handle such contracts to help rid the city of filth. It was also concluded from the survey that outsourcing is sustainable if adopted but the assembly needs to think out of the box and do more than they are currently doing to generate the needed revenue that will finance

these ventures to meet their mandate to the people. Based on the overall findings, it is recommended that can recommend that outsourcing is the best strategy the assembly could adopt in their bid to maintain good sanitation in the city of Kumasi and it surrounding vicinities. This they should pursue for the short to the long term maintenance of a clean city.

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## LIST OF ABBREVIATIONS

KMA	-	Kumasi Metropolitan Assembly
CBD	-	Central Business District
PNDC	-	Provisional National Defence Council
EPA	-	Environmental Protection Agency
MSW	-	Municipal Solid Waste
BPO	-	Business Process Outsourcing
KPO	-	Knowledge Process Outsourcing
LPO	-	Legal Process Outsourcing
ITO	-	Information Technology Outsourcing





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## CHAPTER ONE

### GENERAL INTRODUCTION

#### 1.1 INTRODUCTION

Refuse collection is one of the most routine activities of Decentralised local government bodies and one important area of activity that generates most public interest. For many of the citizenry the critical role of having their refuse collected from their homes or from the communal refuse containers is one of the most important service their local government authorities may perform to relieve them of environmental hazard. Solid waste management should be considered as a daily task. Every day brings new waste to collect, streets to sweep, waste loads to haul and safely dispose. As local economies develop, per capita waste generation increases in proportion to increased consumer activity and related packaging. Tourism and other major business transactions may cause certain waste generation to increase faster than local consumption growth. Consequently, solid waste budgetary requirements in municipalities of developing countries have grown to be quite substantial. They commonly range from 20-50% of total municipal recurrent expenditures. With the rise in contracting for private sector service delivery, the recurrent cost goes up, because capital investment by the private sector is reimbursed through their contract payments.

No wonder that for some time now when sanitation services are provided by government workers, solid waste budgets are significantly obligated to labor salaries and benefits. Fuel costs and consumables, such as tyres, also have precedence. Beyond these priority commitments, the solid waste budgets may not be sufficiently provided to buy spare parts to make repairs, replace collection bins, or purchase soil to cover waste in the landfill.



In such situations, solid waste workers may not be able to perform their job for lack of strong operational vehicles and/or consumables. These circumstances then lead to a spiral situation which may not augur well to sustain the appropriate interest and willingness on the part of clients/citizenry to pay for required service delivery. The experience of poor and irregular sanitation services by residents often lead to lack of confidence and mistrust in Local Government operatives. Hence this appalling situation has led to the need to review or improve the existing method or technique of solid waste management.

Good solid waste service occurs only where reliable, regularized and adequate cash flow is available. With adequate cash flow for recurrent expenditures, it is possible to arrange for private sector involvement that would provide investment in new equipment and facilities, and thus enable capital costs to be translated to recurrent debt service payments. Moreover, adequate cash flow enables municipalities to borrow from local financial institutions or banks commercial to supplement other recurrent revenues, grants etc likely to be provided by central government.

## **1.2 THE DISTRICT ASSEMBLY IN GHANA**

The Metropolitan, Municipal and District Assemblies are the structures or institutions created to spearhead the total development of the various districts. They are in effect, serve as forum for participative local governance mainly composed of a team of development agents, the representatives of the people and other community agencies, who deliberate on the development problems of the district, the underlying causative factors and decide on the combined actions necessary to deal with them. The District Assembly concept was given legal form by the Local Government Law, 1988, PNDCL 207, and as also enshrined in Chapter 20 of the 1992 Constitution



and replaced by the Local Government Act, 1993, Act 462. The total number of districts in Ghana now number up to 170, spread across ten regions.

The Kumasi Metropolitan Assembly has the mandate to enforce and maintain good sanitation in the metropolis (the 1992 Constitution of Ghana).

### **1.3 THE SANITATION SITUATION IN KUMASI**

Good sanitation practices and management in several developing countries has been very elusive. Consequently, a lot of filth continues to engulf many countries in Africa and parts of Asia and South America with our country Ghana as no exception. The problem of poor sanitation in Ghana is in part due to the attitude of the people towards cleanliness especially the lack of appreciation for hygiene and good sanitary practices. This could be linked to their social, cultural and moral upbringing. Littering with impunity is very pervasive among the populace notwithstanding the availability of KMA bye-laws on street littering and sanitation. One important KMA's bye-law on sanitation was promulgated in 1995 in accordance with section 79 of the Local Government Act 462 of 1993 and this widely covers the disposal of refuse, removal of weeds and rubbish.

It also provides prohibitions against the disposal of litter, refuse or other matter in gutters and drains, and that any person who contravenes any of the bye-laws commits an offence, and shall be liable on conviction by a Court or Community Tribunal to a fine not exceeding ₵50,000 (now GH₵5) which has been revised to ₵200,000 (GH₵20), or to a term of imprisonment not exceeding three months.

There have been other several policy initiatives to deal with the city's sanitation condition over the years by top officials of the assembly under different government regimes to keep the city clean.

In 2004 for instance, the Kumasi Metropolitan Assembly (KMA) implemented a policy to replace all communal refuse containers used in some parts of the metropolis with house-to-house refuse collection containers during the ensuing year.

According to Mr Charles Mensah, Public Relations Officer of the Waste Management Department of the KMA, the project started as a pilot one in 1998 and covered a number of houses and suburbs in three sub-metro councils in the metropolis. During the implementation process, some houses in the Bantama, Asokwa and part of Manhyia sub-metropolitan councils were covered by the house-to-house collection project. The project was carried out by six contractors with adequate vehicles to ensure that eventually the house-to-house container collection facility could be extended to all households by the end of 2005. (Lartey 2008)

Waste management is considered to be one of the biggest challenges faced by Kumasi metropolitan city authority (KMA). With a population of 1,813,176 according to 2000 population census projection, Kumasi generates an average of 1,500 tonnes of solid waste daily and out of this the KMA is only able to collect about 1,300 tonnes, leaving the remaining 200 tonnes uncared for. Records from the waste management department of the assembly indicate that, the average monthly service cost of solid waste management, covering both collection and disposal in 2008, was about GH¢720,000 far exceeding the assembly's budget approved for waste management. There is however a general concern about the irregular release of funds by government that often resulted in accumulated debts to contractors making waste management service delivery poor and unsustainable to enhance a clean environment. (GNA 2009)

According to records at the Waste Management Department of KMA, the Kumasi Metropolitan Assembly (KMA) was indebted to small-scale waste collection contractors to the tune of GH¢60,645 being outstanding bills for July to December 2008. These contractors were engaged to

sweep specified roads and side drains, focusing on the arterial roads within the metropolis. It was to help salvage the situation that the assembly introduced a partial cost recovery scheme dubbed, “Kumasi City-wide Solid Waste Management Levy Scheme” by the present KMA boss Mr. Samuel Sarpong but similar policies had been in place by his predecessor. (GNA 2009)

This special scheme involved the collection of subsidized user fees from service beneficiaries for house-to-house and communal collection in an attempt to create a sustainable system.” The scheme was however undermined by problems such as inadequate household bins and communal containers and non payment of bills. Other challenges were the lack of environmentally acceptable leach treatment and disposal as well as and the negative impact of intense trading activities on the streets and pavements within the Central Business District (CBD) that resulted in the generation of large quantities of refuse (GNA 2009). A similar policy directive had been initiated by a former KMA boss under the New Patriotic Party government (NPP). It is significant to mention also that the Kumasi Metropolitan Assembly (KMA) in 2003 spent 1.6 million Ghana cedis on refuse collection and tidying up of the Metropolitan area. The amount far exceeded the total revenue of 1.3 million cedis generated by the assembly.

According to the former KMA Chief Executive, at that time Maxwell Kofi Jumah, ‘it would have been virtually impossible for the Assembly to cope with the situation and also address equally important activities successfully, but for the intervention of government.’ (Chronicle 2009)

The expenditure on refuse collection has been a source of worry to the KMA and many strategies continue to be devised by the assembly to reduce the burden. As part of strategies to lessen the financial burden of garbage collection on the assembly, The KMA decided to introduce door-to-door refuse collection which would be paid for by beneficiary households. "The initiative already started in certain residential areas and was to be gradually extended to all households and residences

in the Metropolis".

The Kumasi Metropolitan Assembly in 2008 also announced new charges for solid waste collection in the metropolis which outlined that from the beginning of January 2008 residents in what they termed class A, B and C residential areas would pay GH¢5.00, GH¢4.00 and GH¢3.00, respectively a month. (Lartey 2008)

It was believed that it was the responsibility of all residents to provide their own household bins as specified in the KMA bye laws or alternatively, the KMA would facilitate the provision of the bins through private suppliers for interested households to pay for by installments.

The KMA employed ten private contractors selected through tender to provide the solid waste services for each of the ten sub-metropolitan areas. The programme was compulsory and aimed at generating adequate revenue from local sources to finance waste collection services.

This was also to curtail the accumulation of debts owed to private waste contractors which had resulted in mounting refuse in the metropolis. The KMA warned that it was an offence for residents to default in the payment of the service fee when a satisfactory service had been rendered by the assigned contractor and such persons would be dealt with in accordance with the existing KMA bye-laws (Lartey, 2008)

There has also been a general concern about the financial predicament of the KMA with regard to the collection and disposal of solid and liquid waste in the metropolis. An estimated amount of 1.5 billion (Gh¢150,000 cedis) was spent in the managing of refuse within the metropolis monthly in 2005. And out of this amount, the assembly was able to recover only 400,000.000 cedis (40,000 cedis) leaving a deficit of 1.1 billion (110,000 cedis). Notwithstanding the huge amount of money spent on the collection and disposal of solid and liquid waste in the metropolis, the assembly was able to cover only about 70 percent from the suburbs in the metropolis. The target for the assembly however was to increase its refuse collection base to over 80 per cent the following year, but the



beneficiaries had to contribute their quota towards the collection and disposal of refuse. It is pertinent to note that a considerable chunk of the internally generated funds of the assembly goes into waste management, a small percentage for other infrastructural development of the metropolis. Hence the implementation of the new levy was to greatly enhance sanitation in Kumasi and address the phenomenon of refuse that pile up in parts of the suburbs in the metropolis. It was however the expectation that residents in the metropolis would embrace the new refuse collection levy to ensure effective and efficient management of solid and so as to secure waste while some reserves of the assembly's revenue for other developmental projects. (Lartey 2008)

Kumasi Metropolitan Assembly has an Engineered Sanitary Landfill Facility located at Oti near Dompase and the current phase of the developed cells was expected to be operational for the next two years before the second phase would be installed. However, the development of the second phase expected to be completed by January 2011, could not be realized due to lack of funds. Presently the operation of the landfill facility had been contracted to a private contractor at an average monthly cost of GH¢300,000 based on GH¢7.2 per tonne of waste deposited at the site. (GNA 2009)

According to the deputy waste management director, this sanitary Landfill facility, if properly managed could be of great benefit and stand to provide big relief to the Assembly as it can contain 1200 tones of refuse a day. With the construction of this Landfill facility, the assembly intended to evacuate accumulated refuse located at about 40 transfer sites. In addition, the assembly had decided to purchase about 30,000 pieces of 240 litter household bins to support the house-to-house collection component at an estimated cost of GH¢3,000,000. (GNA 2009)

#### 1.4 STATEMENT OF THE PROBLEM

With the foregoing background information, especially the incidence of high cost of refuse and other sanitation management faced before the Kumasi Metropolitan Assembly, it is an undisputable fact that it cost an average cost of GH¢720,000 to collect and dispose of waste in the metropolis every month, is estimated to be far in excess of the KMA's budget (GNA 2009). In view of this and coupled with high population growth this will inadvertently lead to more filth generation and the cost of refuse management is also expected to surge that it is likely the assembly may not be in the position to sustain such high budgetary demands to deal with this sanitation debacle.

It is in consideration of this trend and the challenges involved that it would be prudent for the KMA to consider other prudent measures that may seek to deal or address the issues of sanitation and refuse collection more effectively and efficiently.

On the other hand, in dealing with this problem the onus also remains on the KMA to resort to more vigorous campaigns that will seek to impart discipline to the populace and make them appreciate and practice proper individual refuse management practices at home. The Assembly may equally resort to better internal revenue mobilisation practices to support the Waste Management Department in pursuit of their mandate to the people. To address this refuse disposal menace several initiatives, opinions and suggestions needs to be collated from of the assembly members, experts and other stakeholders.

It has been variously suggested that some of these views and suggestions will go a long way to address the inability of the KMA to enforce their bye-laws, particularly that of sanitation which continues to be deplorable and has contributed to the city's poor environmental situation. The argument also goes that the pile of filth in the metropolis could be attributed to the absence of City



Courts to prosecute people who litter the city without restraint and much so in contravention of existing bye-laws. There is the general view that the non-sustainability of the waste management programmes in the city needs the intervention of the courts or judicial to support the KMA to enforce its bye-laws, and ensure sustainable sanitation programmes. Invariably, the laws on sanitation also need to be revised, because they are deemed to be no longer deterrent.

Moreover, there are many other concerned citizens who argue for higher national institution like Parliament to come out with laws on health and sanitation and some bye-laws reviewed critically to help address the national canker of filth. A former mayor of Assembly as well recommended to the KMA, to increase the number of sanitation police, to ensure compliance with KMA bye-laws on sanitation, suggesting further that the effective application of sanctions would go a long way to keep the city tidy at all times (Chronicle 2009). At present, the KMA in collaboration with management of Zoomlion Ghana Limited also occasionally undertake joint clean-up exercises to rid the city of waste and communities have always been impressed upon to embark on such practices in their various suburb and homes to make them clean and save cost.

However in their quest to improve refuse collection, the assembly of late seems to be more disposed and interested in contracting or outsourcing to private agencies. This may be a good idea to the extent that it goes along with the Public Private Partnership (PPP) concept which can lead to efficiency. However, the assembly in considering that the cost of pursuing this venture could be high and far beyond the assembly's financial capabilities, need to explore this alternative in a more pragmatic and cost-effective manner. It is therefore more appropriate and infact very compelling for an in-depth study into the contracting or out-sourcing of refuse collection as a strategy for efficient waste management in the Kumasi metropolis. This is one of the surest ways of coming up with

proposed strategies to assure all stakeholders of a better approach or technique of managing waste or refuse collection in the Kumasi metropolis.

### **1.5 OBJECTIVES OF THE STUDY**

The broad objective of this study is to find out how refuse collection by the KMA can improve by outsourcing to private companies.

However the specific objectives of this study are

1. To establish the extent to which the KMA is already involved in outsourcing their mandate of maintaining good sanitation in Kumasi.
2. To determine the sustainability of outsourcing as an option for improving refuse collection in the Kumasi metropolis.
3. To examine other options of refuse management to outsourcing as an alternative.

### **1.6 RESEARCH QUESTIONS**

1. Is outsourcing of refuse collection to private agencies the best way to improve on the sanitation in the city?
2. If outsourcing is the best practice, how sustainable is this option for the KMA in the medium to long term period?
3. What other measure(s) can the KMA adopt to help improve sanitation conditions of the metropolis?

### **1.7 SIGNIFICANCE OF THE STUDY (JUSTIFICATION)**

This study is to be undertaken in partial fulfillment for the award of an Executive Master of Business Administration by the Kwame Nkrumah University of Science and Technology. The work seeks to provide an intellectual framework of outsourcing as a business practice of acceptance to handle refuse collection and good sanitation maintenance in the city of Kumasi and other cities of the country with the assemblies as the focal point of consideration. This work will afford the reader to have an insight into the extensive literature on the key areas of consideration and scope of the research. In effect, the Metropolitan Assembly of Kumasi and its Waste Management Department could ensure greater refuse collection improvement if the adoption of outsourcing as a strategic tool is given due consideration in this direction.

Incidentally, the KMA been also noted for poor record keeping and lack of a repository of research books and materials useful for intellectual considerations and references. The study when completed would provide a comprehensive analysis of findings and draw objective conclusions so that future studies could be conducted based on the results and findings from this research or used as a reference material for future decisions or policy initiation ventures. It will also help other academicians to gain easy access to information in this field directly from the KMA since a copy of the work shall be reserved at the assembly Library.

## 1.8 SCOPE OF THE STUDY

The research shall be conducted having in mind that resources and time are limited and that further detailed studies in this field could be done in a thesis for the award of a PhD certificate or similar higher education qualifications. The topic has been carefully selected and trimmed to narrow the scope of the research in accordance with the requirements and demands of the programme designers, formulators and the school authority stakeholders. The scope covers the following areas:

- The Kumasi metropolitan assembly
- Outsourcing as a business concept
- Refuse collection improvement and effective waste management

## 1.9 LIMITATION OF STUDY

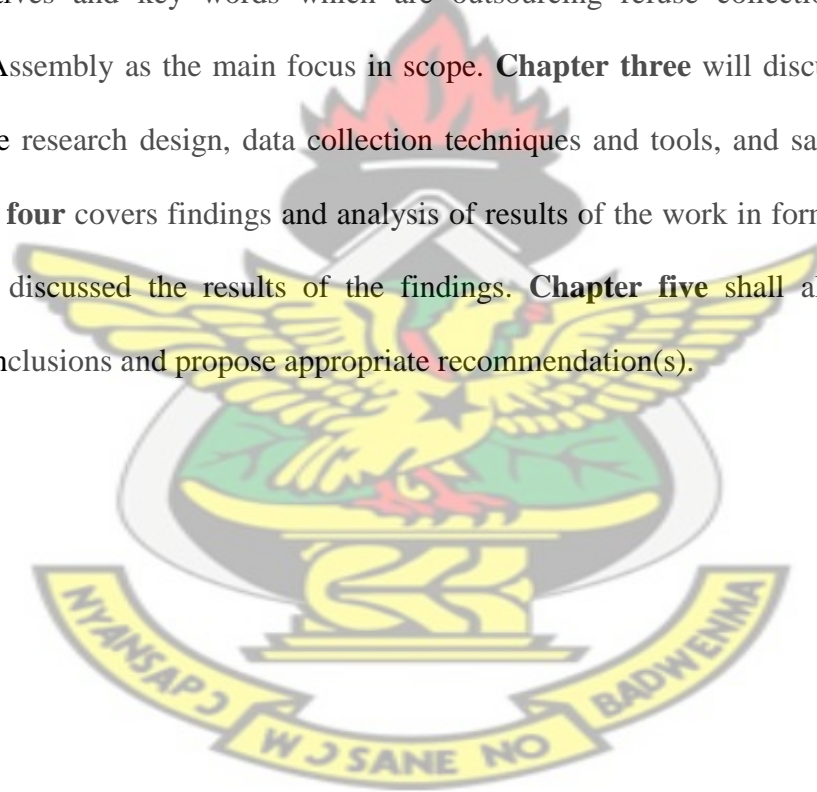
Certain limitations were encountered in the course of the research which in a way created some problems for the smooth conduct of the study. Notable among them were difficulties in accessing information, time and financial constraint. Some of the respondents felt reluctant to respond to the questionnaires.

It was difficult getting in touch with the suppliers for interview and most especially those at the decision making level due to their schedules. Notwithstanding these limitation or restrictions, the

research was conducted. The limitation was not in any way a setback to the overall success of the study.

## 1.10 ORGANISATION OF THE STUDY

**Chapter one** of this report covers the background and introduction of the study, statement of the problem, research questions, objectives, significance of the study, outline of methods to be used and scope of research. **Chapter two** shall cover the review of the related literature in the format of the specific objectives and key words which are outsourcing refuse collection with the Kumasi Metropolitan Assembly as the main focus in scope. **Chapter three** will discuss the methodology, and include the research design, data collection techniques and tools, and sampling method to be used. **Chapter four** covers findings and analysis of results of the work in form of data, figures and tables. It also discussed the results of the findings. **Chapter five** shall also be used to draw appropriate conclusions and propose appropriate recommendation(s).





## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Waste Management definition

As a society we manage to produce a vast amount of materials that are just thrown away. Waste management is the collection of these materials in order to recycle them and as a result decrease their effects on our health, our surroundings and the environment ([www.articlenext.com](http://www.articlenext.com)). Waste management however can therefore be defined as the collection, transport, processing, recycling or disposal, and monitoring of waste materials and usually relates to materials produced by human activity. This is generally undertaken to reduce their effect on health, the environment or aesthetics.

Waste management is carried out to recover resources from materials that otherwise would have to be discarded. Waste management can involve solid, liquid, gaseous or radioactive substances, with different methods and fields of expertise for each ([wikipedia.org](http://wikipedia.org)). The United States Environmental Protection Agency (EPA) also defines waste management as “the administration of activities that provide for the collection, source separation, storage, transportation, transfer, processing, treatment, and disposal of waste.” ([www.epa.gov](http://www.epa.gov))

Waste Disposal could be understood to mean management of waste from various literature on the subject as outlined above and is inherently done to prevent harm to the environment, injury or long term progressive damage to health. Disposal of waste is where the intention is to permanently store the waste for the duration of its biological and chemical activity, such that it is rendered harmless.



At this juncture, it could be emphasized that even though various groups and individuals attempt to define waste management in different ways, the underlying principles have the same focus.

Practices in waste management are different the world over, dependent on certain issues such as how developed the nation is, if it is a city or rural area and so on. By virtue of the fact that waste service delivery has traditionally been viewed as the collection and disposal of waste, it has been deemed unsustainable. Recently there has been a paradigm shift in the way that waste delivery is perceived; the emphasis is now on waste minimisation and reduction at source with the ultimate goal being a National sustainable waste service delivery program.

One of the primary obstacles to achieving this goal is that the present level of waste service delivery and capacity at a local municipal level is not known (Moosa 2007)

Waste management is also considered as a science that addresses the logistics, environmental impact, social responsibility, and cost of an organization's waste disposal. It is a detailed process that involves human resources, vehicles, government bodies, and natural resources (articlesbase.com).

The management of waste is not only the responsibility of governments and the manufacturer, but also an individual's duty. Waste management is an issue that has to be dealt with daily in order to control the huge amounts of waste generated in towns and cities.

Consequently, Issues relating to sanitation and waste management are so important that it must concern all people in the country since heaps of waste is a common ugly sight in both rural and urban centres across the country.

In recent times, waste management has been visibly a poor sight in Ghana's major towns and cities. According to Scott, a chief director of the Ministry Of Environment, Science and Technology, "intensive education on waste management can help educate the public on proper decomposition of waste products".

He intimates that "clearly, the Ghanaian households today lack the capacity to manage the wastes they generate identifying further what makes the situation worse as how to segregate waste products into what can decompose and what cannot decompose, making management of waste even more difficult."

Boadi and Kuitunen (2004) in an article quotes that "Municipal solid waste management in Accra, Ghana, is at present delivered in an unsustainable manner. Due to uncontrolled urbanisation, large quantities of waste are generated daily in Accra, and this exerts much pressure on an over strained solid waste management system.

This coupled with weak institutional capacity, and lack of resources, both human and capital, the city authorities face difficulties in ensuring that all the waste generated in the city is collected for disposal.

Home collection of waste is limited to high and, some middle income areas while the poor are left to contend with the problem on their own. This leads to indiscriminate disposal of waste in surface drains, canals and streams, creating unsanitary and unsightly environments in many parts of the city."

## 2.2 Types of Waste

It is largely agreed by various writers and internet bloggers that waste could be said to be solid, liquid (or even gas). Solid waste can be classified into different types depending on their source:

- a) Household waste is generally classified as municipal waste,
- b) Industrial waste as hazardous waste, and
- c) Biomedical waste or hospital waste as infectious waste.

(<http://edugreen.teri.res.in/explore/solwaste/types.htm>)

Solid and liquid waste can be said to come from almost same sources. However in an article on [www.unescap.org](http://www.unescap.org) blogspot, the two internet bloggers agree on this and unescap.org further elaborate that solid waste types could be broken down according to sources of origin and for the purposes of this review they indicate, these sources are defined as giving rise to four major categories of waste: municipal solid waste, industrial waste, agricultural waste and hazardous waste.

### 2.2.1 Municipal Waste

Municipal solid waste (MSW) is generated from households, offices, hotels, shops, schools and other institutions. The major components are food waste, paper, plastic, rags, metal and glass ([www.unescap.org](http://www.unescap.org)).

### 2.2.2 Industrial Waste

Industrial solid waste encompasses a wide range of materials of varying environmental toxicity. Typically this range would include paper, packaging materials, waste from food processing, oils, solvents, resins, paints and sludges, glass, ceramics, stones, metals, plastics, rubber, leather, wood, cloth, straw, abrasives etc ([www.unescap.org](http://www.unescap.org)).

### 2.2.3 Agricultural Waste and Residues

Expanding agricultural production has naturally resulted in increased quantities of livestock waste, agricultural crop residues and agro-industrial by-products ([www.unescap.org](http://www.unescap.org)).

### 2.2.4 Hazardous Waste

With rapid development in agriculture, industry, commerce, hospital and health-care facilities, developing parts of the world especially the Asian and Pacific Region is consuming significant quantities of toxic chemicals and producing a large amount of hazardous waste ([www.unescap.org](http://www.unescap.org)).

## 2.3 Problems with Waste Management

The problems that confront waste management are many but largely surmountable. Mensah-Kumah (2007) believes that among the many problems is time interval between two collection times. He states, “the time intervals between the times for waste collection are unreasonably wide. To make this already bad situation worse, the number of waste collection vehicles on our roads is woefully inadequate. He further states that, the vehicles are unable to manage the rate at which waste is produced in these densely populated areas.

Large heaps of un-emptied garbage containers are widespread within the metropolises, mainly due to limited, inefficient and under sourced waste management practices.”

When it comes to the case of sewage waste disposal, many people have adopted the free range method. Mensah-Kumah further point that indiscriminate defecation, even in open places such as beaches and at the sides of rivers running through the centre of our major cities in the country while others resort to easing themselves into polythene bags and dumping them anywhere, often in gutters and even sewage tankers dump their contents directly into the sea to make matters worse.

On the other hand Jackson (2009) is of the conviction that there are three critical elements of the waste disposal system of Accra, which inherently hinder the efficient and equitable removal of the city's waste. These elements are: Privatization, Rural to Urban Migration patterns, and the Urban Bias theory.

### **2.3.1 Privatization of Waste Disposal**

Jackson (2009) is of the opinion that the privatization of waste removal in Accra is a serious issue; while advocates of privatization claim that for-profit systems increases efficiency, opponents of this program point out that private firms do not bother to repair inadequate infrastructure in poorer townships and instead prefer to focus on areas that yield higher profits.

He argues that this results in a large amount of trash being poorly managed in the poorer and more rural townships due to lack of infrastructure because these regions do not produce profits high enough to compete with the more urban and wealthier regions. As a result, companies put a much lower priority of upkeep and repair on these regions due to this lack of profit.

### **2.3.2 Rural to Urban Migration**

The second issue, rural to urban migration, according to Jackson is a serious problem for waste management within major cities. The desire to seek better life and opportunities to develop one's self economically and socioculturally has resulted in rampant migrations from villages and other less developed regions in the country especially from the north to seek employment in the big cities such as Kumasi and Accra. This has led to rapid population explosion and its concomitant effects of overstretched city facilities, infrastructure, public utility and houses leading to sprawling of slums and increased littering of the streets and areas of abode (Amoako 2010). In Accra for example, 77.5 per cent of houses have toilets but only 30 per cent have flush toilets and less than 20 per cent have functioning indoor plumbing.



Furthermore, economic disparity within Accra has resulted in 75 per cent of the lowest per capita income earners having to share toilet facilities with 10 or more people in public latrines. This lack of plumbing has resulted in high volumes of waste being dumped into streets, and creating an obvious health problem within the city (Jackson 2007).

### **2.3.3 The Urban Bias Theory**

Finally, the issue of urban bias Jackson concludes continues to be problematic for the city of Accra. Waste collection or removal tends to be reserved for the wealthier citizens of Accra, because they are the only one's who can afford it. Achankeng (2003) state for a fact that from 1992 to the present, he states, the poverty gap has widened in Accra and the percentage of those living under the poverty line fell from 1 in 10 in 1987, to almost 1 in 4 by 1995.

Poorer households are often not capable of paying for the removal of waste and only 60 per cent of the population of Accra has regular waste collection; the result is piles of trash and waste simply sitting on the sides of roads and in ditches, potentially contaminating water and food sources.

### **2.4 Steps to Effective Waste Management**

According to an online articles directory (articlebase.com), waste Management flows in a cycle: Monitoring, Collection, Transportation, Processing, Disposal / Recycle. Through these steps a company can effectively and responsibly manage waste output to bring positive effect on the environment.

Monitoring is identifying the waste management needs, identifying recycling opportunities and ways to minimize waste output, and reviewing how waste minimization is progressing. Through keeping records of the different waste streams, a customer can see the results of their efforts in becoming more environmentally friendly.



Collection involves the logistical organization to guarantee that bin containers will not overflow and waste sit time does not become too long. The correct bin container size and service frequency is a must to prevent overspill or excessive smell and correct bins for different wastes must be available with sticker and bin colour identification. Bins must be accessible to the truck driver at the agreed times. (articlebase.com).

Transportation is the organizing of waste transport vehicles with the authorization and ability to transport the specified wastes from a customer's work residence to landfill or processing plant. A waste must be transported by the vehicle designed for it. For example, general waste requires a vehicle with thicker compacter walls, to that of a cardboard and paper waste transporting vehicle. Therefore, a customer may require a series of vehicles to meet their waste management needs. Vehicles, drivers, and companies need licenses and approval in certain Council Areas to transport waste. EPA standards need to be upheld as well as General Public Safety.

Safety standards are vital to the transportation of clinical and hazardous wastes. Drivers must undergo training for emergency circumstances that may arise (articlebase.com).

Processing involves the separation of recyclables for treatment, and then after treatment are packaged as raw materials. These raw materials are sent to factories for production. Non-recyclable wastes by-pass this step and are delivered straight to landfill. Liquid and hazardous wastes are delivered to treatment plants to become less hazardous to the public and environment (articlebase.com).

Disposal / Recycling is the disposal of non recyclables into landfill. Landfill sites must be approved by legal authorities. Legal authorities guarantee that specific wastes are buried at the correct depth to avoid hazardous chemicals entering the soil, water tables, water systems, air, and pipe systems. In this step the raw materials made from recyclables are produced and sold as products on the market. Companies can purchase such products to further sustain the environment and natural resources (articlebase.com).

## 2.5 Consequences of Poor Waste Management

The health implications of poor waste management can be very damaging to the people exposed to these unsanitary conditions. Mensah-Kumah (2007) further deliberate that diseases such as cholera, dysentery, ENT infections, guinea worm and malaria are all related to the practice of poor waste management. The diseases associated with unsanitary living conditions result in the loss of human resources needed in developing a country and results in low productivity.

The government is also forced to increase its spending on health to keep these diseases under control when they could have easily been prevented. This unnecessary increased spending on combating diseases retards national development and drains a nation's development resources.

Waste does a lot of things. When sent to the landfills, they emit greenhouse gas in the form of methane. Although methane can be used to make energy, it is generally hazardous to health. Wastes buried in landfills also tend to leach chemicals that can contaminate groundwater. Wastes can be incinerated, though but the problem with incinerators, however, is that they also produce greenhouse gas and other forms of toxin such as dioxin. Dioxin is found to cause cancer.

Whether waste is brought to a landfill or incinerator, it seems like it is a potential source of pollution and threat to health (Sumaryan 2009).

Although indirectly, waste causes resource depletion and this is due to the common buying pattern: buy, throw, and then buy again. As the waste piles up high, the demand for more products also rises, almost exhausting the natural resources. This has a spiral effect, mainly involving threats to biodiversity, deforestation, pollution, and other environmental problems.

## **2.6 Benefits of Proper Waste Management**

Not all people after all are aware that the one piece of waste material they are sending to landfills or incinerators constitutes a greater threat to the environment hence education and awareness campaigns play a great part here. Presently, calls to recycle and waste reduction are widely active to manage waste. There are several benefits of solid waste management and using it can control vermin that otherwise can spread harmful diseases. One can eliminate habitats for rodents as well as insects by disposing residential and commercial waste. These rodents and insects can create health risks, and wastes are the generator of these insects.

According to Seelan (2009) one of the most alluring benefits of waste management is that it excludes the requirements of burying or burning the waste that can cause health risks to those living nearby to the area.

Asker (2010) could not have agreed with Seelan any better and affirm that some solid wastes are considered as perfect to recycle and convert it into some useful material. In solid waste management a primary health benefit is the control of vermin that spread disease.

By consolidating residential and some types of commercial wastes, and then using appropriate disposal technology habitat for rodents and insects that otherwise pose a public health risk is reduced, or nearly eliminated. Another health benefit is the control of disposal methods that prevent indiscriminate burning or burial methods that could pose long term and acute health risks.

There is a great need in understanding the importance of waste management because unless it is acknowledged by all people, waste management efforts will not progress to further heights.

## 2.7 Ways of Managing Waste

When it comes to waste management, an old idea is taking a new direction. In ancient times, cultures around the world wasted nothing in terms of resources. Their survival depended upon maximizing what the environment made available to them. For years, companies committed to sustainability have aspired to attain that same goal, with a focus on the waste management hierarchy: Reduce, Reuse, Recycle and Recover. The goal is to move our waste up the hierarchy, with the ultimate goal of reducing to zero waste ([www.dowcorning.com](http://www.dowcorning.com)).

Okrant (2006) joins the discourse with the assertion that recycling and waste reduction have become a priority for many companies that have found that corporate financial goals and environmentally friendly strategies can go hand in hand.

By employing waste diversion, recycling, and reuse techniques, facility managers can provide significant cost saving benefits for their companies and exhibit environmental responsibility.

For most campaigners waste reduction should be the number one priority. Whether it's reducing the amount of waste generated in the manufacturing process or reducing energy consumption. It simply makes sense to avoid generating waste in the first place.

The second step in the hierarchy is Reuse, which either extends a product's life or reuses the same material, but in a new product. The third step is Recycle and here materials that cannot be reused in their original form may be "converted" into new use.

However, despite all these efforts, some material still ends up in the waste stream. To extract value from the waste stream, green campaigners have moved to the next level in the hierarchy, which is Recover.

In certain cases, waste material should be sent for energy recovery. This is another way that some companies are creatively transforming a problem into a solution. No single approach is sufficient to address the problem of waste, but together, these initiatives are helping Dow Corning reduce its environmental footprint. That's a step in the right direction ([www.dowcorning.com](http://www.dowcorning.com)).

Managing waste can be done in different ways but the two major ways are: through waste reduction, and through recycling. Consistent waste reduction and recycling activities mean there will be less waste materials to be sent to landfills and incinerators. As such, the emission of greenhouse gas and other forms of pollutant will be reduced by a large percentage. Reusing and recycling of used items will also result in less production of new products and this helps in the conservation of natural resources (Sumaryan 2009).

## 2.8 OUTSOURCING

Padovani and Young (2006) in a comprehensive work on managing high risk outsourcing by municipalities state unambiguously that outsourcing is strategy used by municipalities in an effort to provide high quality services at a low cost. The underlying theory is that by having an external vendor provide a service, a city or town can take advantage of the vendors' considerable experience and economies of scale. The result will be comparable or better quality services than provided by the municipality itself, at a reduced cost to the tax payers, while still allowing the vendor to earn a profit.



Many well known companies have made a commitment, which is reflected in their mission statements and branding, to use eco-friendly business strategies. One such strategy is waste outsourcing. Okrant (2006) ascertain that waste outsourcing is a concept quite different from traditional waste hauling. A waste outsourcing company will look at and evaluate a client's entire waste stream and create cost effective, customized solutions that reduce waste by using diversion, recycling, and reduction techniques. Cost reduction is a primary goal, and since waste is treated as a recyclable commodity, companies will enjoy the added benefit of new revenue streams.

Header (2002) in his submission opines that significant time and money investment is needed to properly manage waste collection/disposal in-house, and coupled with this are the additional risks to personnel who handle the materials, which opens the company to increased liabilities. However, there are alternatives to managing environmental compliance in-house. Outsourcing waste management services allows foundries to concentrate on profit-generating activities, such as materials procurement and distribution of products, while trained experts handle environmental waste disposal and the related paperwork.

A research by Clegg, Burdon and Nikolava (2009) conclude that many organisations in the current environment in Australia look at outsourcing not only as a method of increasing efficiency but also as gaining competitive advantage through harnessing the superior specialist skills and experience of the outsourcing provider who takes someone's back office function and transforms them into their front office. Further they are of the conviction that a number of the organisations thought their skills in managing outsourcing had improved considerably such that they were in a position to move from a client/server relationship to a partnership model (i.e. an alliance).

### 2.8.1 Benefits of Outsourcing

For many companies, the need to have a proper waste disposal and transport system is important especially if they are manufacturing products which creates hazardous waste in the process. Proper waste management is essential to avoid harming the people or the environment in the area. KPO an Outsourcing company disclose that these days, waste management is complex; thus, outsourcing it to the experts is an ideal choice because it saves you money and time, as well as helping to reduce liability. A waste management service provider has the proper equipment and vehicle to ensure the safe transport of waste to the disposal area.

Haakiran (2010) also believes outsourced service saves you money because discounted pricing is provided especially when transporting huge volumes of waste. In addition, since service providers have their own specialised vehicles, you do not have to spend for your own special transport or to even create a costly department for waste management tasks. In addition, you save time because you do not have to hassle your employees with the administrative and operating tasks of handling the waste management procedures. In this way, your workers become more productive because they can just focus on the core procedures that will turn your business into a success.

Risk sharing is also seen as one of the key benefits of outsourcing utility services. Combined with the trend of divesting non-core functions, cost efficiencies are encouraging the European industrial sector to outsource on-site utility management. Such outsourcing agreements are, moreover, being increasingly associated with risk management benefits. Kärki, an industry analyst states, “Critical factors for attracting industrial customers to externalise their on-site utilities are operating cost savings, accelerated re-engineering benefits, long term stability from integrated services, proactive support in managing exposure to legislation and full or partial risk transfer”

### 2.8.2 Disadvantages of Outsourcing

The advantages and the importance of outsourcing these days are simply obvious. There are many reasons why businesses, notwithstanding their size and budgets, consider outsourcing. Some businesses, especially small ones, very often simply have no choice but have to outsource some of their business processes. However, it has been established that there are some risks and disadvantages of offshoring that have to be considered. It is however worth noting that much depends on the company you're dealing with. As a rule, the better the reputation of an outsourcing company, the fewer risks you may face during the collaboration with them (<http://theoutsourcingblog.com/2009/09/02/outsourcing-risks-tips/>).

Though outsourcing is known to bring about a lot of benefits to companies not all and sundry believe in the benefits of outsourcing as outlined above. While the city of Philadelphia boasts that outsourcing would save millions, quell environmental concerns and eliminate noxious odors, employees of a biosolids processing facility in Philadelphia counter that it would cost taxpayers more money, hurt the environment and address a harmless odor (Online Journal (2009)).

A heated debate has been raging in Europe and America over the issue of offshore outsourcing. The argument of the critics is that it is causing unemployment. Jobs are being outsourced to countries like India, which would otherwise be done by employees within the shores. This is being looked upon as grave threat to the economies of U.K and U.S (roseindia.com).

### 2.8.3 Types of Outsourcing

Gautam (2009) and Wankhade (2009) share the opinion that outsourcing is of multiple types, Business Process Outsourcing (BPO), Knowledge Process Outsourcing (KPO), Medical Outsourcing, Accounts Process Outsourcing, Legal Process Outsourcing (LPO) etc.

However (roseindia.net) differ in opinion and affirm that outsourcing can be divided into two broad categories. They are BPO and KPO.

### **2.8.3.1 Business Process Outsourcing (BPO)**

Wankhade (2009) posits that in BPO, a particular process task is outsourced. An example would be payroll. BPO work could be either back office related or front office work. Front office functions include customer oriented work like marketing, answering calls, technical support and so on, whereas internal work like billing and purchase come in the back office category. Roseindia.net cite Multimedia/ animation, book keeping, business consultancy, CAD/ CAM, call center, DTP, data entry, proof reading and editing, typesetting, handwriting services, marketing, medical billing and transcription, web design and development etc as services that could be put under the BPO category.

### **2.8.3.1 Knowledge Process Outsourcing (KPO)**

As is evident from the description, Anthony (2009) illustrate that BPO activities involve carrying out standardized processes for the client. KPO or typically calls for work that needs higher levels of involvement from the worker. The worker has to employ advanced levels of research, analytical and technical skills and has to make decisions of a higher order than BPO work. Examples are pharmaceutical research and development, patent/ intellectual property research, animation and simulation. Gautam (2009) outline Data research and analysis, legal services, content writing and development and database development services as some examples. KPO industry is less older and mature than the BPO sector. However apart from BPO and KPO, ITO or Information Technology Outsourcing is another major category. It includes IT services, technical support, software testing, and website management outsourcing (Roseindia.net, Gautam 2009 and Anthony 2009).



## CHAPTER THREE

### RESEARCH METHODOLOGY

#### 3.1 Introduction

This chapter describes the methods used in collecting the data. It seeks to describe the population of the study, the sample and sampling techniques, and the data collection procedures and administration.

#### 3.2 Data Collection Techniques

The instruments (methods) of collecting information for this study were as following:

- Questionnaire administration
- Informal Discussions and interviews
- Analysis of Documents and information available concerning the topic and key words in the topic.

The research basically relied on primary and secondary sources of data sources. Primary data sources were fundamentally generated through a questionnaire. The initial part of the research involved the method of collection of existing data with regards to solid waste collection service delivery and capacity at assembly level to manage this venture. This part of the study relied heavily on the secondary data from the KMA and other research work by other individuals more importantly those by academicians and the assembly's internal research works. To help answer some of the research questions and meet the research objectives, the writer conducted informal interviews, discussions and one-on-one talks with executives to extract vital information for the final discussion and conclusion parts of the work in addition to the questionnaire.



To provide more current data, a questionnaire was developed and sent out to some top executives and staff members who were in official position to provide the information needed for successful analysis of this research work. This formed the basis of the primary sources of data and both closed and open- ended questions were asked. The questionnaire has been included as an Appendix to this document. The aim of the questionnaire was to assess the current situation of waste service delivery and waste services management within the metropolis, and to identify issues that hindered successful waste service delivery and the propensity of outsourcing as an alternative.

In all cases the responses to the questions were used to obtain:

- A quantitative evaluation of the status of waste services delivery and alternative methods for consideration; and
- An insight into the manner in which waste services are being delivered and managed at the local level and the major constraints on the delivery of municipal solid waste services.

The questionnaire data gathering was supported by:

Data obtained from the Kumasi Metropolitan assembly's archives, internet sources, newspapers and news bulletins. The questionnaire was distributed to the top executive members and some staff of the KMA as well as the general public. Seven (7) operations managers of the waste management contractors were also interviewed. Any respondent that could not complete the questionnaire was engaged in a formal interview to obtain the needed information to complete that particular questionnaire. Where questionnaires were returned either with missing information or with information that seemed to be incorrect, verification of that information were made from secondary sources where possible. These sources included the KMA archives and telephone interview of management staff.

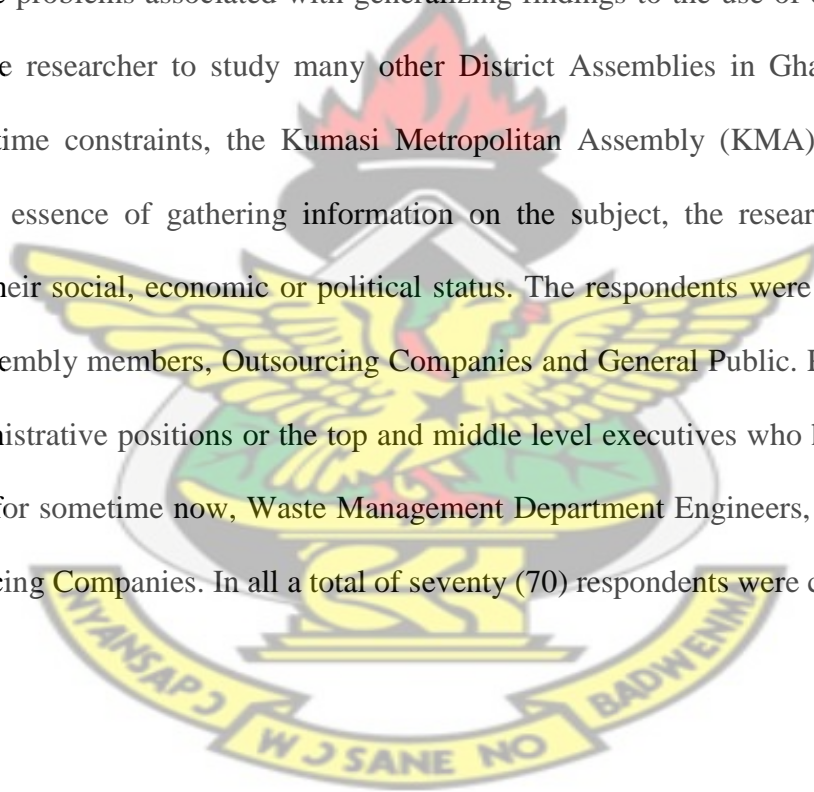
### 3.3 DESIGN OF RESEARCH

Literature on refuse collection and improvement as well as outsourcing was reviewed extensively. This was to acknowledge works conducted by other researchers in this field and to emphasize on the potential success and smooth conduct of this research work. The successful completion of this research work will bring to the reader's domain works on this topic already in existence and the fresh knowledge that will be inherently added to existing knowledge.

### 3.4 TARGET POPULATION

Based upon the problems associated with generalizing findings to the use of case study, it was the intention of the researcher to study many other District Assemblies in Ghana. However due to financial and time constraints, the Kumasi Metropolitan Assembly (KMA) was chosen for the study. For the essence of gathering information on the subject, the researcher took on people regardless of their social, economic or political status. The respondents were basically staff of the Assembly, Assembly members, Outsourcing Companies and General Public. Priority were given to those in Administrative positions or the top and middle level executives who have been working at the Assembly for sometime now, Waste Management Department Engineers, Operations Directors of the Outsourcing Companies. In all a total of seventy (70) respondents were contacted.

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### 3.5 SAMPLING METHOD

For the sake of convenience and some constraints that are expected, the researcher used the non probability method since members of the population were selected from the population in non random manner. The non probability methods adopted were convenience sampling, judgment sampling and quota sampling.

Convenience sampling is used in exploratory research where the researcher is interested in getting an inexpensive approximation of the sample. As the name implies, the sample was selected because they were conveniently found at the assembly.

Judgment sampling: The researcher also selected the sample based on judgment. The researcher decided to draw the entire sample from one "representative" city. Nevertheless the researcher was confident that the chosen sample is truly representative of the entire population.

With Quota sampling the researcher first identified the strata and their proportions as they are represented in the population at the assembly. Then convenience or judgment sampling was used to select the required number of subjects from each stratum.

Chances were given to any one at all who was in the position to deliver the information to the researcher through the requirement. The researcher also ensured that they were within the sampling frame.

### 3.6 METHODS OF DATA ANALYSIS

Data was analysed using the SPSS software and Microsoft excel. Tables as well as graphs were extracted from the analysed data. From the analysis discussion was done and conclusions were subsequently drawn from the analysis and inferences have been made to reflect the purpose and objectives of the study. The interpretation of the data shall be presented in Detail in Chapter 4.

### 3.7 VALIDITY AND RELIABILITY OF DATA COLLECTED

The information collected by the researcher has a firm pedestal and can be said to be reliable. This is because the research methods employed and adopted are the most suitable for the case under consideration. The statistical techniques used were proper for the purpose of the research work and data input was done more carefully to eliminate mistakes and wrongly entering data.

### 3.8 RESEARCH CONSTRAINTS

1. The major hindrance was time constraint and resources in terms of materials availability and accessibility.
2. Budget constraints.
3. There was also the problem of getting the right responses. Some respondents may either completely fail to respond to the questionnaire or ignore some parts of it creating lots of missing data.

## CHAPTER FOUR

### DATA ANALYSIS AND DISCUSSION

#### 4.1 Introduction

The theoretical basis of this study that is a comprehensive review of the literature in this field of the study, and the research methodology were discussed in the previous chapters. This chapter however concentrates on the actual research findings and discusses the results of refuse collection improvement in relation to outsourcing this endeavor to a private agent. The first five questions on the survey questionnaire sought to address the attributes data of the respondents. The attributes data covered the gender of the respondents, age groups, department of work at their respective assemblies, their ranks in their departments and years of service to date at the assemblies. This is to give a general knowledge of the characters of population involved in this research before any good could be made of their responses.

The chapter also discusses the finding from the survey analysis. It looks at the findings obtained from the analysis of the field data in the light of the research questions as well as the objectives of the study. This chapter brings out the key findings of the study

In all, 70 copies of the questionnaire were administered and the results have been presented in tables and figures. Out of the 70 respondents 10 were administrators who mainly ranked as directors and deputies from their respective departments, 17 were health and environmental officers who also rank as seniors and assistants as well as 23 technicians from the waste management departments. The remaining 20 were members of the general public.



To make the research more credible and all inclusive, seven (7) operations officers of the seven contractors who the assembly engages or contracts in their refuse collection mandate to the metropolis were also interviewed.

## ASSEMBLY WORKERS AND THE GENERAL PUBLIC

### 4.2 Gender Distribution of respondents

**Table 4.1: Gender Status of Respondents**

**GENDER OF RESPONDENTS**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid MALE	49	70.0	70.0	70.0
FEMALE	21	30.0	30.0	100.0
Total	70	100.0	100.0	

**Source: Field Survey, 2010.**

The general trend in Ghana's population structure as well as that of the Kumasi Metropolis reveals the dominance of the female population over the male. For instance the 2000 Population and Housing Census puts the gender split as 48.8 percent male and 51.2 percent female for the KMA and the national figures as 49 percent male and 51 percent female (GSS, 2000). Data obtained from the survey suggested otherwise in this situation and revealed that the females constituted about 30 percent while the remaining 70 percent were males (refer to Table 4.1).

It must be stated that in the formal Ghanaian institutions i.e. both public and private, males mostly predominate and they are the people who are often seen taking charge of these institutions and rank higher in most organisations. This presentation however reflects the general trends in the sex distribution of many academic researches all over the world.

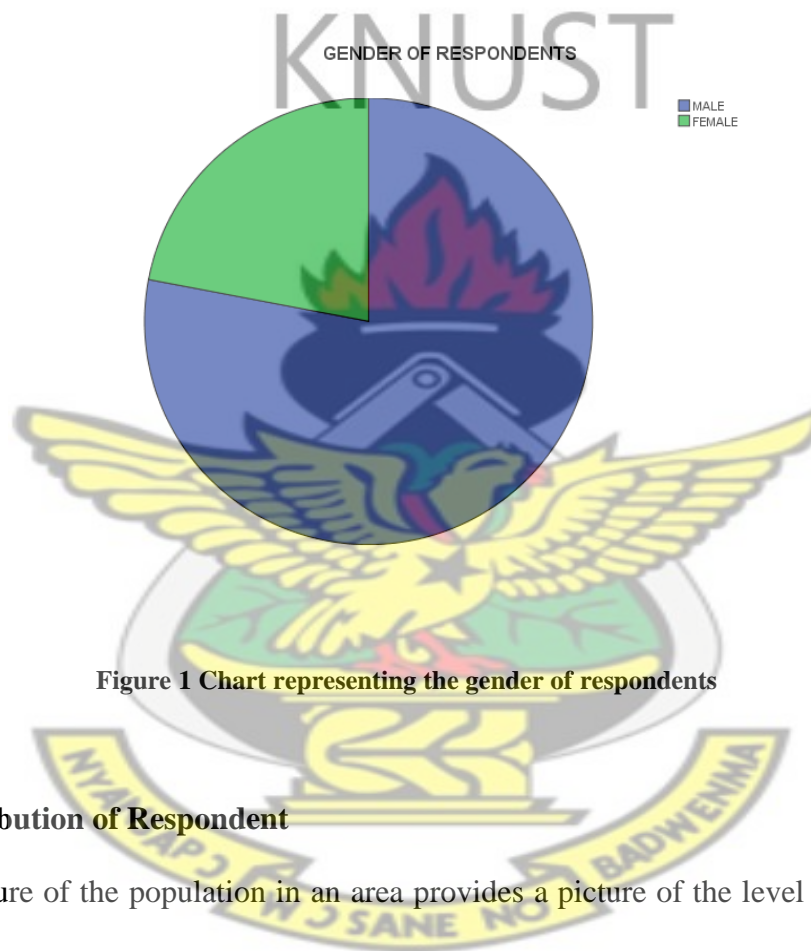


Figure 1 Chart representing the gender of respondents

#### 4.3 Age Distribution of Respondent

The age structure of the population in an area provides a picture of the level of age dependency in the economy and also serves as a determinant for measuring economic activity of the population. From the survey, the ages of the respondents interviewed reflects a high rate of the population who are economically active or the potential labour force engaged in some form of employment.

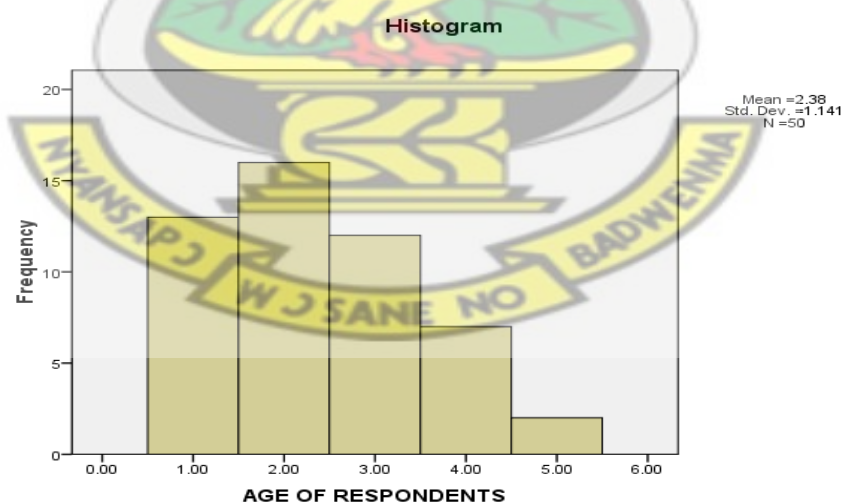
**Table 4.2: Ages of Respondents**

**AGE OF RESPONDENTS**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 20-29	17	24.3	24.3	24.3
30-39	20	28.6	28.6	52.9
40-49	16	22.8	22.8	75.7
50-59	11	15.7	15.7	91.4
>60	6	8.6	8.6	100.0
Total	70	100.0	100.0	

**Source: Field Survey, 2010.**

From the results of the analysis 24.3 per cent of respondents were between 20-29 years of age, 28.6 per cent were in the 30-39 years age range while 22.8 per cent were between 40 and 49 years. 15.7 per cent were somewhere between 50 – 59 and only 8.6 per cent were over 60 years.



**Figure 2 Histogram of Respondent's Age**

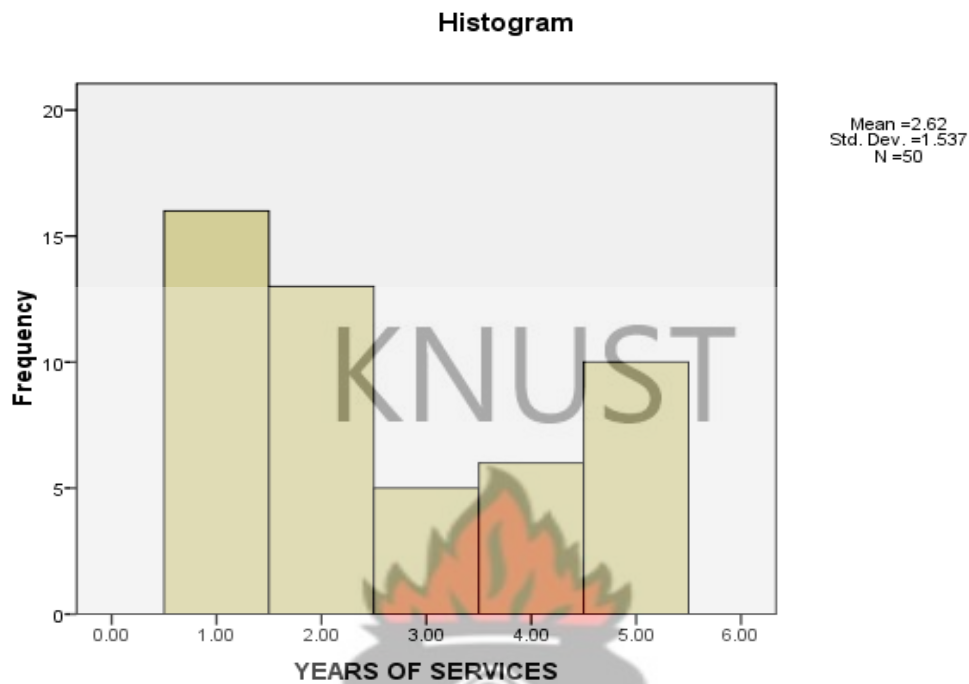
#### 4.4 Years of Service in the Organisation

The number of years the respondents have worked with the various Assemblies was sought to give an indication of their knowledge, experience and familiarity with activities at the assemblies as far as outsourcing waste management is concerned. This was done in order to give more credence to the respondent's ideas and submissions.

**Table 4.3: Years of Service**

YEARS OF SERVICES					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-4	20	28.6	28.6	28.6
	5-9	17	24.3	24.3	52.9
	10-14	9	12.9	12.9	65.8
	15-19	10	14.2	14.2	80.0
	20-29	14	20.0	20.0	100.0
	Total	70	100.0	100.0	

Source: Field Survey, 2010.



**Figure 3 Histogram Representing Years of Service of Respondents**

Even though majority 28.6 per cent of respondents had been with the assembly for 1-4 years, it is a good indication that they have been there for such a period that will make them conversant with how certain practices like waste management is carried out in their respective assemblies. It is very evident that a colossal 71.4 per cent of the respondents have been with the assembly for at least 5 years to 29 years and none of the respondents had spent over 30 years with any of the assemblies.



#### 4.5 How Respondents Dispose off Refuse in the House

Collection bins principally are the means by which respondents dispose off refuse in the house recording a whopping 62.9 per cent response. It is clear from the results in the table 4.4 below that more households are accepting bins as the conventional means of collecting waste together in the house for collection and disposal by city authorities.

However burying in trenches, burning, backyard disposal and other methods like the open refuse sites in neighbourhood are no longer good options for disposing refuse considering the percentage responses they all generated in the table below.

**Table 4.4: Means to Dispose Off Refuse**

**MEANS TO DISPOSE OFF REFUSE IN THE HOUSE**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	COLLECTION BINS	44	62.9	62.9	62.9
	BURRYING	8	11.4	11.4	74.3
	BURNING	6	8.6	8.6	82.9
	BACKYARD DISPOSAL	7	10.0	10.0	92.9
	OTHER	5	7.1	7.1	100.0
	Total	70	100.0	100.0	

**Source: Field Survey, 2010.**

#### 4.6 Littering in the Streets

Though respondents indicated in their responses that the major cause of poor sanitation in Kumasi was that of bad attitude to littering (see causes in 4.18) about 41.4 per cent of them also believe that littering the streets was due to the absence of bins in the city to collect waste from daily activities and 31.4 per cent think absence of bins is not to blame for street littering. 18.6 per cent are not sure but only 8.6 per cent were not sure.

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**Table 4.5: Absence of Dustbins in the Streets**

**WHETHER LITTERING IS DUE TO ABSENCE OF DUSTBINS IN THE CITY**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	29	41.4	41.4	41.4
	NO	22	31.4	31.4	72.8
	MAYBE	13	18.6	18.6	91.4
	NOT SURE	6	8.6	8.6	100.0
	Total	70	100.0	100.0	

**Source: Field Survey, 2010.**

#### 4.7 Problems associated with provision of Bins in the Streets

The absence of bins in the streets of the city to collect waste or litter is principally the result of financial constraints on the part of the local government to meet such budgetary demands according to the result of survey in the table below. 44.3 per cent backed this assertion, 41.4 per cent believe it is due to a lack of goodwill on the part of KMA to supply them in streets but a paltry 14.3 per cent think bins are not necessary in the streets because people will still litter probably due to their bad attitude to cleanliness in the city.

**Table 4.6: Constraints for provision of Waste Bins**

**PROBLEMS MILITATING AGAINST PROVISION OF BINS IN THE CITY**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	LACK OF GOODWILL BY KMA	29	41.4	41.4	41.4
	FINANCIAL CONSTRAINTS	31	44.3	44.3	85.7
	BINS ARE NOT NECESSARY	10	14.3	14.3	100.0
	Total	70	100.0	100.0	

Source: Field Survey, 2010.

#### 4.8 Provision of Bins or Hiring Agents

53 per cent of respondents are of the submission that the KMA should allow littering of the streets and then hire agents to clean them but 47 per cent think the KMA should rather provide litter bins in the streets to collect litter generated by the general public and not allow them to litter first. This is a response by respondents to indicate which of the two situations they preferred.

**Table 4.7: Provision of Bins**

WHICH SITUATION DO YOU PREFER					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	KMA SHOULD PROVIDE BINS	33	47.0	47.0	47.0
	KMA SHOULD ALLOW LITTERING & HIRE AGENTS	37	53.0	53.0	100.0
	Total	70	100.0	100.0	

Source: Field Survey, 2010.

#### 4.9 Responsibility of Keeping the City Clean

According to the responses generated from the research, both the local government and the individuals have oversight responsibility of keeping the city clean and not the responsibility of any one group. This is a response of 68.6 per cent of the respondents to who they think has the responsibility of keeping the city clean.

**Table 4.8: Responsibility to clean the city**

##### WHO SHOULD TAKE RESPONSIBILITY TO CLEAN THE CITY

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	LOCAL GOVERNMENT	12	17.1	17.1	17.1
	INDIVIDUALS	10	14.3	14.3	31.4
	BOTH	48	68.6	68.6	100.0
	Total	70	100.0	100.0	

Source: Field Survey, 2010.



#### 4.10 KMA's Approach to Waste Management

It has been identified that the assembly's approach to waste management is contracting as indicated by most respondents in an open ended question and discussed in 4.18. Respondents were however asked if the approach employed by the KMA is good and the result is the representation in this table. 37.1 per cent think the approach that is contracting is not good enough for waste management in the city. 27.1 per cent indicated that maybe it's good and 25.8 per cent think it is good enough. However 10 per cent were not sure.

**Table 4.9: Existing Approach to Waste Management**

**WHETHER EXISTING APPROACH TO WASTE MANAGEMENT IS GOOD**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	18	25.8	25.8	25.8
	NO	26	37.1	37.1	62.9
	MAYBE	19	27.1	27.1	90.0
	NOT SURE	7	10.0	10.0	100.0
	Total	70	100.0	100.0	

**Source: Field Survey, 2010.**

#### 4.11 Outsourcing Option

Even though most respondents surmise that contracting is not the best approach to waste management, they sharply contradict themselves and opt for outsourcing as the best option in dealing with waste management in the Kumasi metropolis when asked, “Do you believe outsourcing is the best option in dealing with waste management in the Kumasi metropolis?” 51.4 per cent responded yes, 22.9 per cent said maybe, 15.7 per cent said no and 8.6 per cent were not sure. Missing data was recorded.

This contradiction may be understood in the context that though the outsourcing option is good generally in the business and economic sense it has not been successfully undertaken in Ghana by our assembly and the agents to rid the city of filth to present the expected results.

**Table 4.10: Outsourcing of Waste Management**

**WHETHER OUTSOURCING IS THE BEST IN MANAGING WASTE IN KUMASI**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	36	51.4	51.4	51.4
	NO	11	15.7	15.7	67.1
	MAYBE	16	22.9	22.9	90.0
	NOT SURE	6	8.6	8.6	100.0
	Total	69	98.6	100.0	
Missing	System	1	1.4		
Total		70	100.0		

**Source: Field Survey, 2010.**

#### 4.12 Engagement Level in Outsourcing

In view of the above prior responses and submissions, respondents believe the assembly though is already involved in outsourcing but they should do so moderately i.e. according to a 32.9 per cent response recorded from the question, what level of outsourcing the assembly should be engaged in. With such a slim difference 25.7 per cent indicated the assembly should be very highly engaged in outsourcing, 25.7 per cent indicated it should be just high with 10 per cent advising low engagement. Where ever the distribution tilts, it still gives a strong indication by respondents that the assembly should be involved in outsourcing more since the high and very high response together is greater than the moderate response.

**Table 4.11: Level of Assembly's Engagement in Outsourcing**

**THE LEVEL OF ASSEMBLY'S ENGAGEMENT IN OUTSOURCING OF WASTE**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY HIGH	22	31.4	31.4	31.4
	HIGH	18	25.7	25.7	57.1
	MODERATE	23	32.9	32.9	90.0
	LOW	7	10.0	10.0	100.0
	Total	70	100.0	100.0	

**Source: Field Survey, 2010.**

### 4.13 Sustainability of Outsourcing

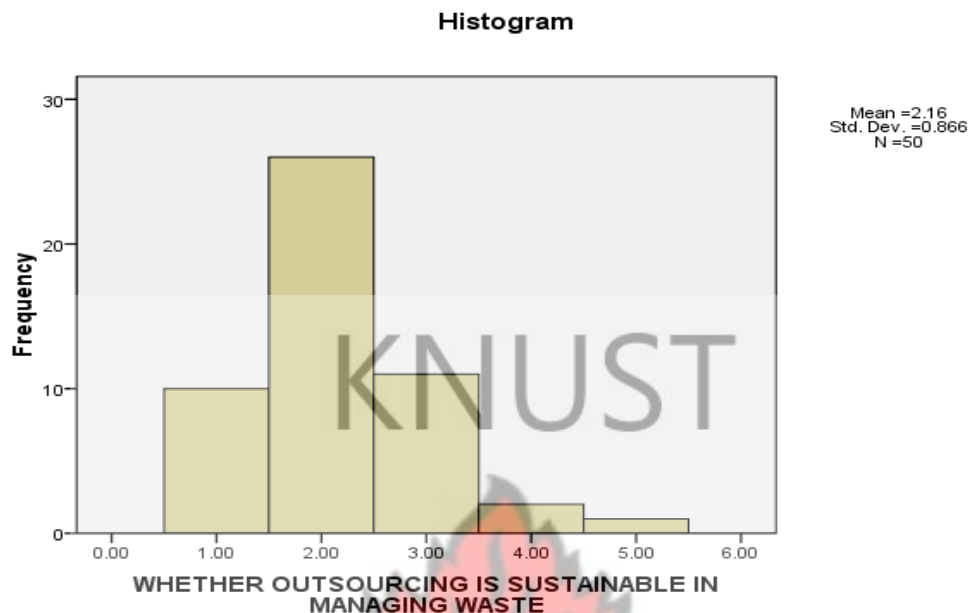
Then there is a statement of sustainability of outsourcing strategy on the part of the assembly's capacity if they should be highly engaged in outsourcing in the questionnaire and respondents totally agree with a 42.9 per cent response that it is sustainable. 20 per cent also strongly agreed with 8.6 and 7.1 per cent disagreeing and strongly disagreeing respectively.

**Table 4.12: Sustainability of Outsourcing**

#### WHETHER OUTSOURCING IS SUSTAINABLE IN MANAGING WASTE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	14	20.0	20.0	20.0
	AGREE	30	42.9	42.9	62.9
	NEITHER AGREE NOR DISAGREE	15	21.4	21.4	84.3
	DISAGREE	6	8.6	8.6	92.9
	STRONGLY DISAGREE	5	7.1	7.1	100.0
	Total	70	100.0	100.0	

Source: Field Survey, 2010.



**Figure 4 Graphical Representation of table 4.12**

#### **4.14 Improvement through Outsourcing**

Since the assembly has been involved in outsourcing certain types of waste collection, 48.6 per cent of respondents believe there have been some improvements in the sanitation situation in the city so far. 21.4 per cent see no improvement at all but 20 per cent think there may have been some improvements. However 10 per cent were not sure at all.



**Table 4.13: Existing improvements in Outsourcing**

WHETHER EXISTING OUTSOURCING OF WASTE HAS SEEN SOME IMPROV.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid YES	34	48.6	48.6	48.6
NO	15	21.4	21.4	70.0
MAYBE	14	20.0	20.0	90.0
NOT SURE	7	10.0	10.0	100.0
Total	70	100.0	100.0	

Source: Field Survey, 2010.

#### 4.15 Sanitation Payments

If outsourcing is to be sustainable as indicated earlier by respondents, then who was to pay for the cost of maintaining this feat? Here the answer is an emphatic one i.e. both government and individuals must be held responsible. Almost all respondents support this idea and hence a laudable idea to propose in this research. Government alone cannot finance this venture on its own so individuals must be made to pay for the waste they generate to help government to take care of it after wards.

**Table 4.14: Payment for Sanitation maintenance**

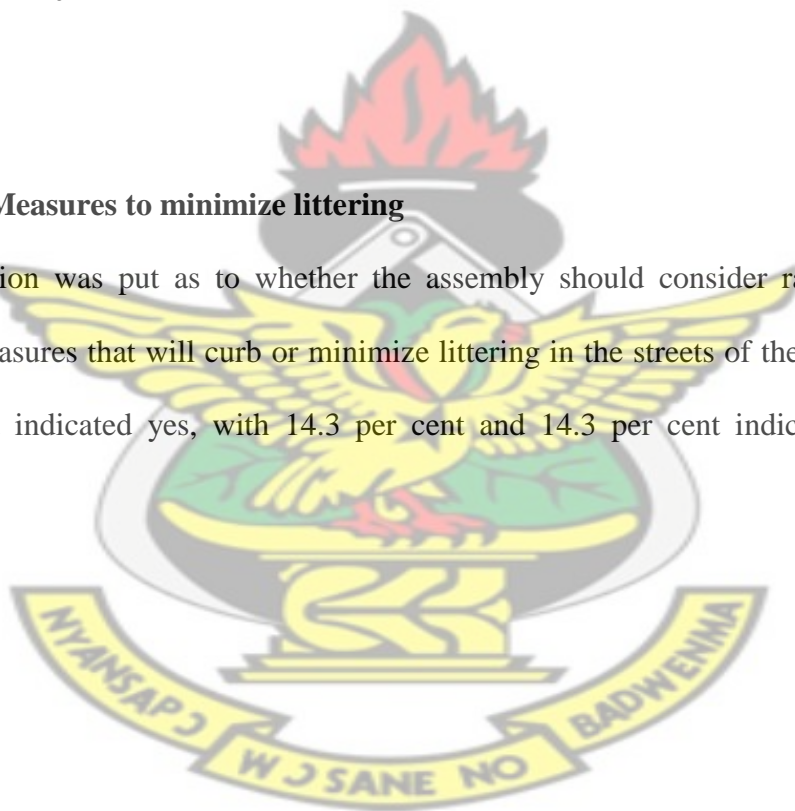
**WHO SHOULD PAY FOR SANITATION MAINTENANCE IN KUMASI**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	GOVERNMENT	9	12.9	12.9	12.9
	INDIVIDUALS	11	15.7	15.7	28.6
	BOTH	50	71.4	71.4	100.0
	Total	70	100.0	100.0	

**Source: Field Survey, 2010.**

**4.16 Stringent Measures to minimize littering**

When the question was put as to whether the assembly should consider rather stringent waste management measures that will curb or minimize littering in the streets of the metropolis, 71.4 per cent agreed and indicated yes, with 14.3 per cent and 14.3 per cent indicating no and maybe respectively.



**Table 4.15: Measures to minimize littering in the Streets**

**WHETHER ASSEMBLY SHOULD CONSIDER MEASURES TO CURB  
LITTERING**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	50	71.4	71.4	71.4
	NO	10	14.3	14.3	14.3
	MAYBE	10	14.3	14.3	100.0
	Total	70	100.0	100.0	

**Source: Field Survey, 2010.**

However in this endeavour, measures respondents think are most suitable in order of most suitability are deterrent measures i.e. fines and prosecutions (28 responses), reactive measures e.g. outsourcing or contracting agents to clean up after people have littered (17), recycling (15) and lastly proactive measures like discouraging inorganic waste (2). It should be noted that here respondents were asked to choose one but seven of the respondents chose more than one of the options available hence the responses are more than 50 expected responses.

#### 4.17 CONTRACTORS

The KMA contracts seven (7) major firms to assist in refuse collection in the metropolis to help rid the city of filth. These firms are Anthoco Ltd, Mestworld Company Ltd, Zoomlion Ghana Ltd, Westgroup Company Ltd, ABC Company Ltd, SAK-M Company Ltd and Kumasi Waste Management Company. Operations officers of these companies were interviewed with the same set of questionnaires and the findings have been used to issues about outsourcing and their dealings with the assembly. Most of these outsourcing firms have been working with the KMA for about 4-9 years and they have been contracted by the assembly from between 1-9 years (field survey 2011).

From the survey conducted on these outsourcing firms, majority (6) of their operation officers think it is prudent for the KMA to outsource refuse collection, and an equal majority also admitting that they have been able to meet their mandate of refuse collection mandate in the metropolis as covered in the contract agreement. All the operations officers interviewed further believe that the assembly's engagement of their firms has been beneficial to the Kumasi metropolis.

Some (3) of the officers of these firms nevertheless disclosed that the assembly is unable to meet their financial obligations to them as stipulated in the contract agreement. The remaining four other companies admitted that the assembly is able to meet its financial obligations to their firm though with delays. With regards to promptness of payment of fees for the services they render the assembly, a majority (4) of the respondents admitted that the assembly is prompt in the payment of their fees but two (3) did not consider the assembly to be prompt in the payment of their fees to them.

All the officers believe that the assembly could consider other strategic options for proper maintenance of sanitation other than outsourcing, though they all admit that the outsourcing strategy is sustainable.

The operations officers acknowledge that the outsourcing strategy is sustainable because these vendors have the equipments or capacity to undertake such projects unlike the assembly. Others also infer that the strategy is sustainable for as long as the assembly is able to meet its financial obligations to the outsourced firms.

#### 4.18 DISCUSSION OF FINDINGS

- **Causes of Poor Sanitation in the Metropolis**

Basically most respondents indicated that

1. The major cause of poor sanitation in Kumasi is attitudinal problem
2. Some also suggested that other causes apart from attitude, culture, poor education and governmental problems included ignorance of dangers and repercussions of poor sanitary conditions.
3. On the other hand poor planning of the city was cited as another cause of poor sanitation situation in the country.
4. Other causes cited were a lack of refuse collection vehicles to cart refuse to landfill sites
5. Poor or a lack of monitoring mechanism to check waste management companies from executing shoddy jobs.
6. Others too suggested that a lack of good basic personal hygiene of some individuals
7. Lack of enforcement of the bye-laws was also a part of the causes of this canker.



- **Assemblies Current Approach to Waste Management**

From the results of the questionnaire most respondents indicated that the present approach used by the KMA to manage the sanitation situation in Kumasi is contracting of private agents for example Zoomlion. Some others believed that provision of litter bins and collection of refuse from dumping sites by vehicles are the approaches used by the assemblies. Door to door and communal collection was however also mentioned as one of the approaches used by the assembly.

Nevertheless amongst all the responses giving, the most prominent response giving by over 90 per cent of the respondents was pay as you dump (PAYD) and outsourcing. Here households have to pay for every bag or bucket of refuse they dump at the refuse sites before giving the permission to use the site. The assembly then have the **mandate** to engage the outsourced agents or private companies eg Zoomlion, Babdako sanitations etc to cart away the refuse from these sites. Sanitation agents like Zoomlion even takes on a bigger contract of cleaning up the streets and lorry stations, a venture they have **successfully undertaken** throughout parts of the country where they have jurisdiction.

Outsourcing will depend on the **financial base** of the assemblies and the effectiveness performance of the agent

- **Alternative Options**

In dealing with waste management in the city, respondents indicated that apart from outsourcing:

1. The assembly should embark on awareness creation and sensitization through massive education of people on the need for a clean city. On top of this the assembly can employ task force to ensure people do not litter. Charging individuals the fees fixed for collection of refuse by KMA was also suggested. The assembly should also enforce its bye laws and use spot fines

and punitive sanctions against individuals who litter the streets if necessary was additionally suggested.

2. However majority of respondents (more than 50 per cent) suggested that recycling, re-using and reduction in waste generation was the way forward.
3. Other respondents suggested that the assembly should employ reasonable number of sanitary labourers for all sub-metros with the KMA itself assisting in quarterly clean up exercises and also assisting communal labour once every month at town council areas.
4. Further suggestions were that empowering the environmental health department to execute their mandate to the people was necessary.
5. Ensuring that waste bins are placed at vantage points in the city and regularly emptied would help a great deal and also ensuring that waste containers are always available at all refuse sites and also regularly carted away.
6. KMA should introduce modern trends in waste management e.g. solicit for funds from corporate institutions.
7. Good basic personal hygiene should be imbued in home and school upbringing, attitudinal change and commitment to keeping a clean city should be a concern for the citizenry.
8. Assembly should adopt its own emergency collection unit to cater for failures of agents.
9. KMA should embark on effective house to house collection and employ more people to inspect and collect waste and include experts to monitor agents.

10. Sanitation courts in all the ten sub-metros should be instituted to expedite trials and prosecution of indiscriminate street littering offenders and should be fined to help the assembly to generate more revenue to manage sanitation in the country.

11. Waste management practices should not be outsourced completely but should be done in partnership with the assemblies.

- **Waste Management Improvement in the City**

Respondents to the questionnaire presented very good suggestions on how sanitation in the city could be improved. Even though some may be seen as weak suggestions they can never be sidelined. Though many were the suggestions from the different respondents, most of the answers were the same and hence have been selected for discussion in this chapter. In the opinion of many respondents, the KMA should expand the waste management workers and task force with strict measures taken against those who litter.

Refuse collection centres must be kept clean and house to house refuse collection also carried out on a regular basis. Public education must be intense and punitive measures must be severe against those who litter in the streets at will by enforcement of byelaws. Formation of sanitation task force it was suggested would be essential and should be backed by the opening of courts in every sub-metro, and instant fines, arrests and prison terms meted out to defaulters. Individuals should be sensitized to pay for waste they generate,

Involving more private agents in waste collection and dividing the operational areas into smaller units for effective collection has already been implemented in the capital city of Ghana - Accra. The assembly should ensure that outsourced agents do regular collections and waste management companies should also be monitored to deliver quality service. Prompt payment of outsourced agents must be encouraged to motivate them to do a better job.

Litter bins must be placed at vantage points in town and communities to collect litter where necessary with individual houses provided with dustbins at their own cost. Each household should be compelled to have a waste bin to curb indiscriminate littering and wanton disposal of refuse.

Pay as you dump currently being adopted by the assembly is a commendable feat and would help the assembly to generate more revenue to pay outsourced firms to do their work efficiently.

Rivers must be dredged, opened gutters should be de-silted and yet to be constructed drainages must be closed during construction works to prevent filth from entering them to avoid choking and stagnating running water.

Vigorous sensitization on attitudinal change, commitment to good sanitation by individuals and encouragement of communal labour will not be far fetched. Educating communities on good sanitation and getting communities involved in keeping their own environments clean must be embarked upon by the assembly on various media platforms (the print and electronic). Environmental, sanitation and health officers should reintroduce the town councilors (“saman saman” people) for strict enforcement of sanitation laws within communities and in households with the issuance of genuine fines and receipts to offenders.

Establishing recycling plants to recycle waste though may be expensive could be tried on pilot basis to ascertain its usefulness and the use of reusable materials e.g. refillable bottles, gallons etc could be promoted.

Since the cost of financing some these suggested measures to improve sanitation in the city could be colossal, financial support to the assemblies should be a matter of concern for all and sundry and the assembly could solicit for funds from other private corporate organisations to support the assembly's efforts. Corporate bodies should get involved in the campaign and adopt waste management as part of their corporate social responsibilities (CSR).

Importers and users of inorganic waste products such as plastic bags, water sachets and plastics that are normally disposed off after a single use should be made to take responsibility of cleaning up the cities. Most filth found in the city recently is usually used plastic bags and sachets from water companies and food sellers hence they should be encouraged to form an association where they can collect levies to help meet part of the cost of clearing the city of such filth from their sector.

Partial outsourcing is also worth considering by the assemblies was suggested by some respondent. According to this proposal, assemblies should be actively involved in waste management themselves.

- **Problems with outsourcing Waste Management in the Assembly**

The problems that the assembly faces and which potentially militate against successful employment of outsourcing as a business and economic strategy could be many in Ghana. However we shall endeavour to stick strictly to what the questionnaire sought to unveil from respondents own opinion.



When respondents were asked their thoughts on the problems the assembly faces in outsourcing waste collection to private investors, they indicated that financial constraints (29 responses) was the prime problem followed by inefficiency of policy makers (15), and politics (12) at the assembly and national level. However a few indicated the problem is lack of goodwill (2) on the part of the executives to perform their mandate. Here it could also be seen that the responses are more than 50 because 6 respondents believed the problem is more than just one of the above and ticked at least two.

Politics has become such a big deal in Ghana that today certain perception exist that the welfare of the country is always sacrificed to rather achieve party political welfare. Since some respondents believe politics has a role to play in clearing the city of filth at least as even found in some political manifestoes. It will be prudent to further dive into how this canker rears its ugly head into the assembly's affairs as far as this research is concerned.

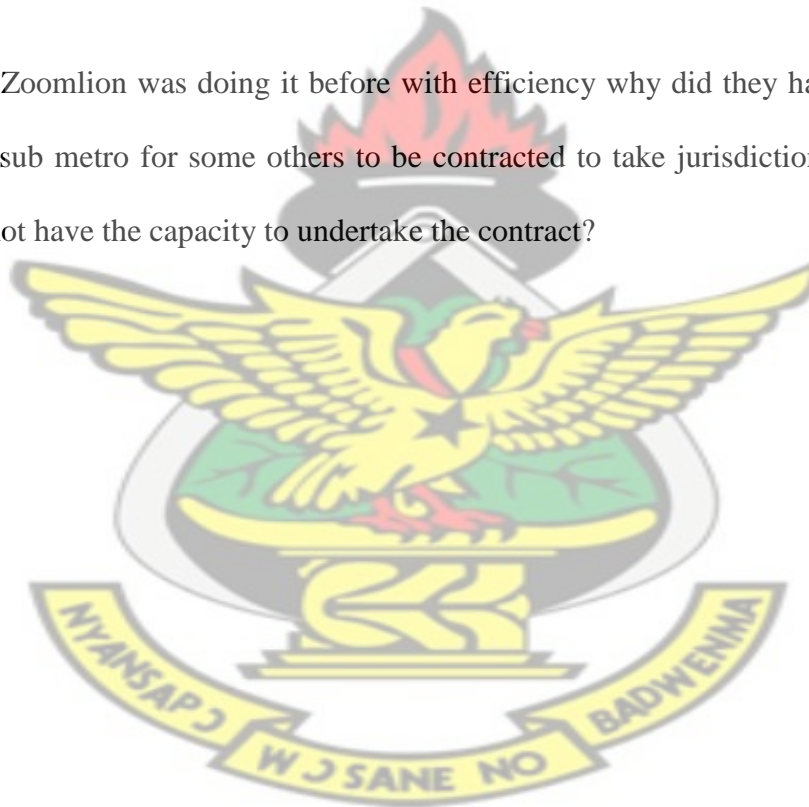
- **The Politics as a Canker**

Politics always find its way into everything that is done in Ghana today, a development that has led to sanitation crisis in the capital city of Accra with the introduction of a new provision in waste removal in the metropolis. Under the new and current provisions in Accra, 11 sub metros in the region have been assigned to 9 waste management companies which started operating in the first week of July 2010. This is causing problems in the region's waste management agenda (Takyi-Boakye 2010). Until the introduction of the new provision, waste collection was contracted to Zoomlion Company Ltd which had the capacity and resources to do the job efficiently.

However Zoomlion was formed during the Kufour administration and the owner is believed to be a sympathizer of the NPP administration hence the new and current NDC government found it necessary to reduce their scope and jurisdiction of operation and bring in companies owned by their party faithfuls. It became evident that these companies did not have requisite capacity requirements and resources to operate in their allotted jurisdiction of operation to meet the sanitation demands of the people and this resulted in the waste management crisis currently hitting the city.

Hence Zoomlion had to be called to take charge of the areas where the other small waste management agencies failed.

The issue is if Zoomlion was doing it before with efficiency why did they have to be restricted to only a limited sub metro for some others to be contracted to take jurisdiction of other sub metros when they do not have the capacity to undertake the contract?



## CHAPTER FIVE

### CONCLUSIONS AND RECOMMENDATIONS

#### 6.1 Findings

The research revealed that K.M.A. as an the assembly is currently involved in outsourcing almost entirely their waste management mandate to the people to external agents in the Kumasi metropolis and this venture (outsourcing) has also been found to be sustainable from the survey. Outsourcing has also been found to have the propensity to help rid the city and its environs of filth. It was also discovered that there are other options of managing refuse in the metropolis to outsourcing (see discussion on alternative options in chapter 5) that can be considered.

#### 6.2 Conclusion

From the survey, results analysis is conclusive that refuse collection and its subsequent management can best be handled by outsourcing to private agents since some of them have the capacity to handle this kind of endeavour. Some companies like Zoomlion, has proven beyond reasonable doubt that they are more than competent to handle such contracts to help rid the city of filth. It is also conclusive from the survey that outsourcing is sustainable if adopted but the assembly needs to think out of the box and do more than they are currently doing to generate the needed revenue that will finance these ventures to meet their mandate to the people.

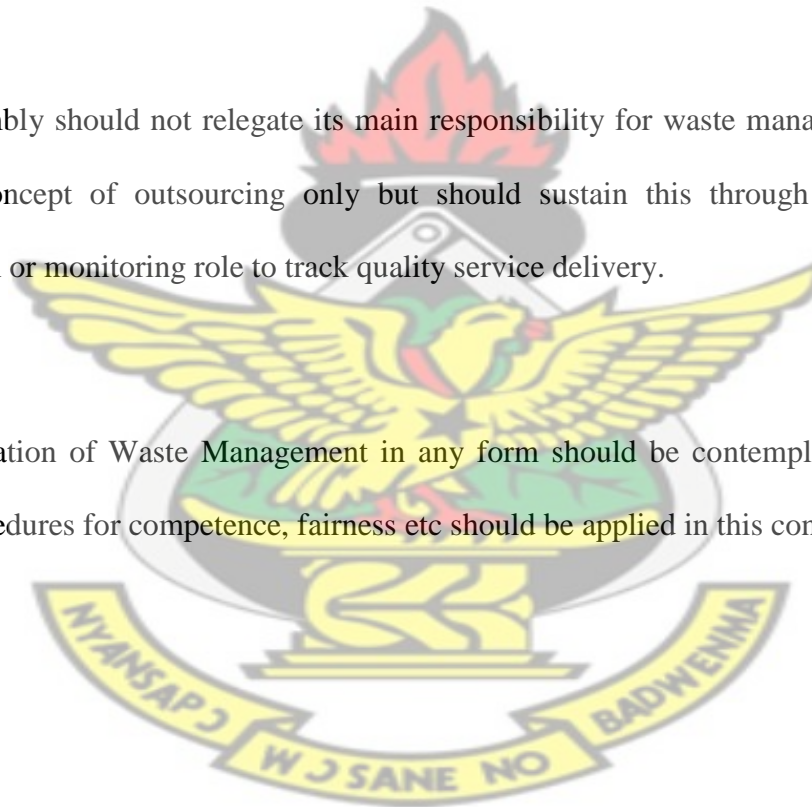
### 6.3 Recommendations

From the available literature from this research work and other sources of literature, we can recommend that outsourcing is the best strategy the assembly could adopt in their bid to maintain good sanitation in the city Kumasi and its surrounding vicinities. This they should pursue from the short to the long term maintenance of a clean city.

According to experts the nation's environmental sanitation challenges can best be managed also with the following:

1. The introduction of a sanitation fund, which will require that resources are pooled from various sources to support the sector (Bentil 2010).
2. In view of the fact that litter bins cost 150 cedis, waste management companies should supply waste bins to clients or provide them in town to help reduce filth in the streets.
3. The institution of special 'Day' or 'Week' as Public Sanitation awareness or sensitization and education would especially highlight the importance of good sanitation and help change attitudes and practices for the better.
4. Training and capacity building of waste management staff or Unit to keep abreast with new or modern techniques or skills for effective supervision, monitoring and service delivery.
5. Review or introduction of new laws or regulation for communities, household, general public for observance, compliance and co-operation.

6. The concept of social responsibility between Assembly, households and the general public on Waste Management should be appropriately be revisit.
7. Corporate organization, Sachet water companies, NGOs, Civil Society Organisations should be largely contacted for finance and logistical support for waste management activities.
8. Use of City sanitation courts largely to impose penalties to sanitation offenders to instill discipline and change attitudes.
9. The Assembly should not relegate its main responsibility for waste management to companies through concept of outsourcing only but should sustain this through a better partnership mechanism or monitoring role to track quality service delivery.
10. No policisation of Waste Management in any form should be contemplated of and only laid down procedures for competence, fairness etc should be applied in this context.





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## Appendix I

# KWAME NKRUMAH UNIVERSITY OF SCIENCE & TECHNOLOGY KNUST

## INSTITUTE OF DISTANCE LEARNING

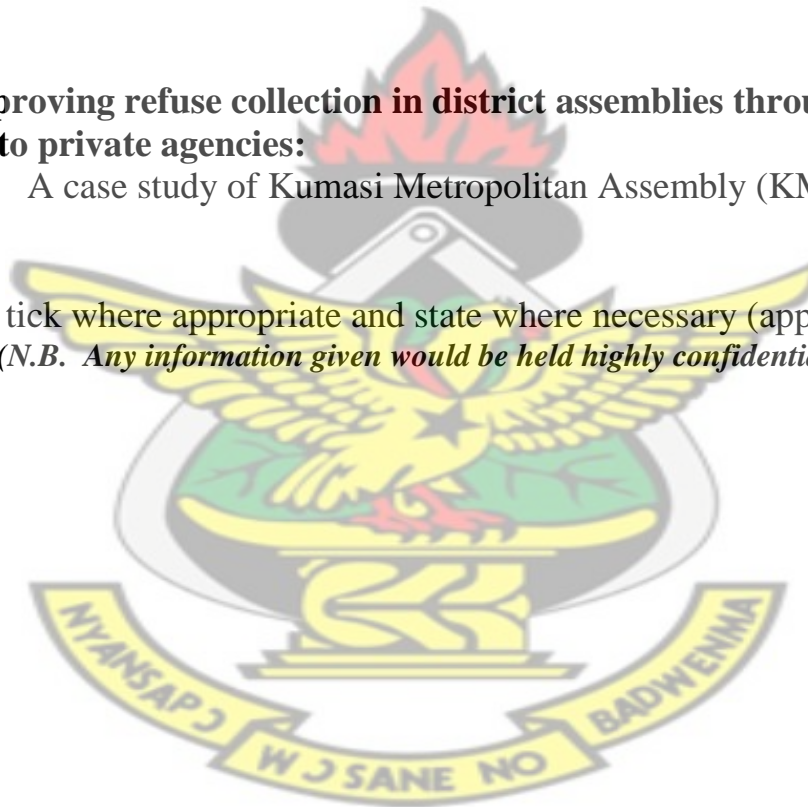
### RESEARCH QUESTIONNAIRE FOR STAFF AND OTHER STAKEHOLDERS IN WASTE MANAGEMENT SECTOR

**TOPIC: Improving refuse collection in district assemblies through outsourcing to private agencies:**

A case study of Kumasi Metropolitan Assembly (KMA)

Please tick where appropriate and state where necessary (applicable).

*(N.B. Any information given would be held highly confidential.)*





1. Gender of respondent                      Male [    ]1                      Female[    ]2

2. Age group (years)      20 – 29 [    ] 1

30 – 39 [    ] 2

40 – 49 [    ] 3

50 - 59 [    ] 4

60 +      [    ] 5

3. Department of the assembly \_\_\_\_\_

4. Rank in the Assembly \_\_\_\_\_

5. Years of service                      1 – 4      [    ]1

5 – 9      [    ] 2

10 – 14 [    ] 3

15 – 19 [    ] 4

20 – 29 [    ] 5

30 +      [    ] 6

6. How do you dispose off refuse in the house?

Collection bins                      [    ]1

Burying                                      [    ]2

Burning                                      [    ]3

Backyard disposal                      [    ]4

Other (Specify)                      [    ]5

7. In your opinion the cause(s) of poor sanitation in Kumasi is

Attitudinal                                      [    ]1

Cultural                                      [    ]2

Poor education                                      [    ]3

Governmental                                      [    ]4

Other (Please state).....

8. Do you believe littering the streets of the capital city is due to the absence of dustbins in the city?

Yes                                      [    ] 1

No                                      [    ] 2

Maybe                                      [    ] 3

Not sure                                      [    ] 4

9. What do you think is the problem militating against the provision of dustbin in the city to collect refuse littered on the streets

Lack of goodwill of the KMA to provide bins	[ ]1
Financial constraints	[ ]2
Bins are not necessary because people will still liter anyway	[ ]3

10. Which of the following two (2) situation do you prefer? (Please tick)

a The KMA should provide bins to collect waste in town at whatever cost to stop littering [ ]1  
b. The KMA should hire agents to clean/collect litter or refuse in town [ ]2

11. Who do you think has the responsibility of keeping the city clean?

Local Government	[ ]1
Individuals	[ ]2
Both	[ ]3
Other (Please state).....	

12. What do you think is the present approach used by the KMA in managing waste in the Kumasi metropolis?
- 

13. Do you think the assembly's approach to waste management is good enough?

Yes	[ ]1
No	[ ]2
Maybe	[ ]3
Not sure	[ ]4

14. Do you belief outsourcing is the best option in dealing with waste management in the Kumasi metropolis?

Yes	[ ]1
No	[ ]2
Maybe	[ ]3
Not sure	[ ]4

15. What should be the level of the assembly's engagement in outsourcing of waste collection?

Very High	[ ]1
High	[ ]2
Moderate	[ ]3
Low	[ ]4
Very Low	[ ]5

16. What other options can the KMA consider in dealing with waste management in the city apart from outsourcing? Specify

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

17. Outsourcing as a strategy for improving refuse collection in the city is sustainable?

Strongly agree [ ] 1

Agree [ ] 2

Neither agree nor disagree [ ] 3

Disagree [ ] 4

Strongly Disagree [ ] 5

18. What problem(s) do you think the assembly faces in outsourcing waste collection to a private investor?

Financial [ ] 1

Inefficiency [ ] 2

Good will [ ] 3

Politics [ ] 4

No the assembly does not face any problem [ ] 5

19. The assembly is already involved in outsourcing certain type of waste collection in the metropolis to private agents: in your opinion have there been some improvement(s) in the sanitation situation in the city so far?

Yes [ ] 1

No [ ] 2

Maybe [ ] 3

Not sure [ ] 4

20. Please indicate how in your opinion waste management can be better improved in the city?

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

21. Whom do you think should pay for sanitation maintenance in Kumasi?

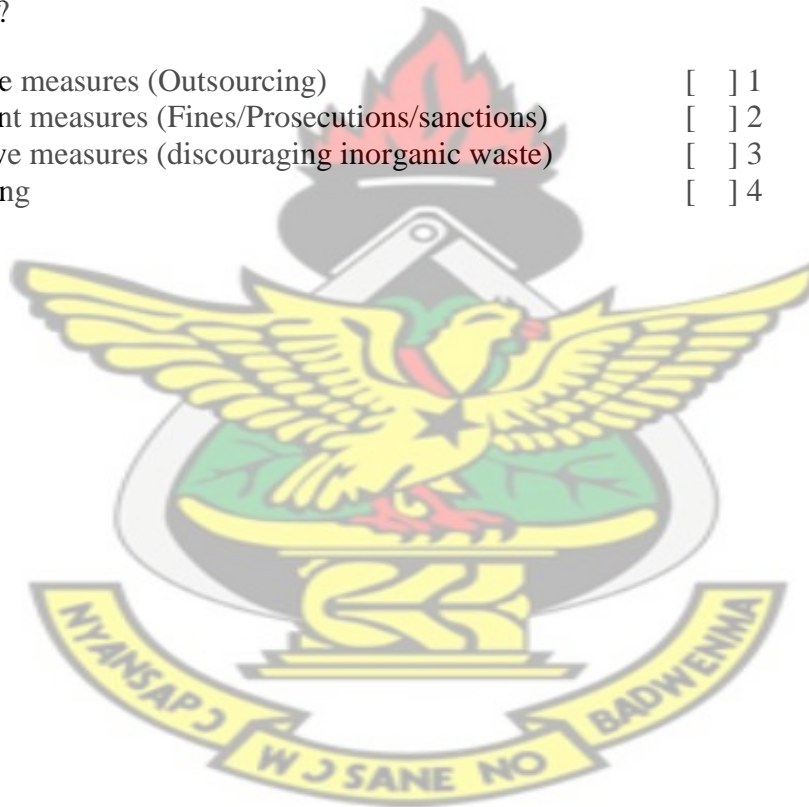
- Government [ ] 1  
Individuals [ ] 2  
Both [ ] 3

22. Should the assembly rather consider stringent waste management measures that will curb or minimize littering in the streets of the metropolis?

- Yes [ ] 1  
No [ ] 2  
Maybe [ ] 3  
Not sure [ ] 4

23. Which of the following measures do you think are more suitable for managing waste within the city?

- Reactive measures (Outsourcing) [ ] 1  
Deterrent measures (Fines/Prosecutions/sanctions) [ ] 2  
Proactive measures (discouraging inorganic waste) [ ] 3  
Recycling [ ] 4



## Appendix II

# KWAME NKRUMAH UNIVERSITY OF SCIENCE & TECHNOLOGY KNUST

## INSTITUTE OF DISTANCE LEARNING

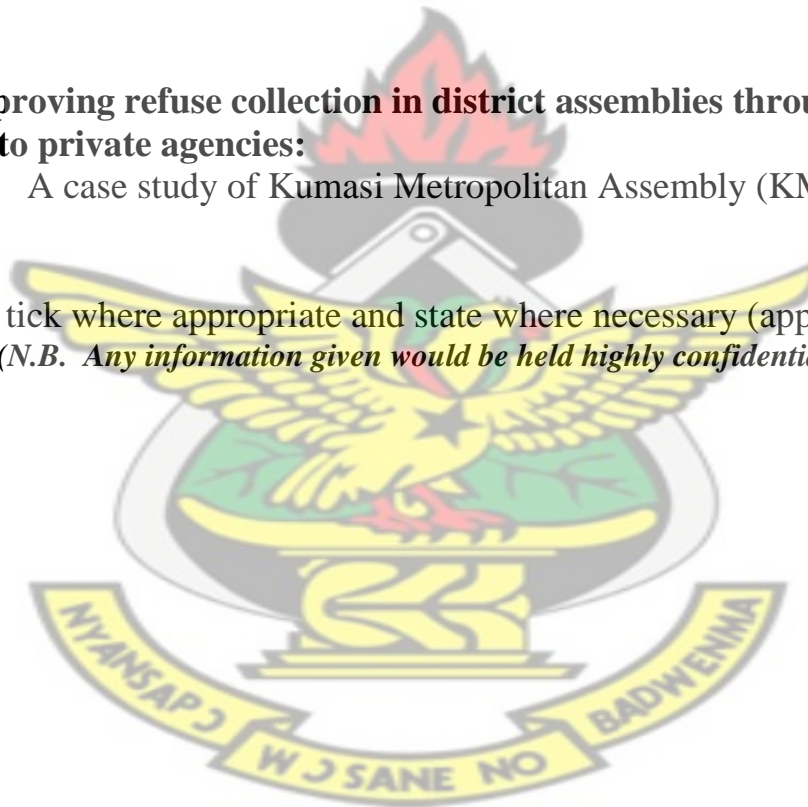
### RESEARCH QUESTIONNAIRE FOR WASTE MANAGEMENT CONTRACTORS IN WASTE MANAGEMENT SECTOR

**TOPIC: Improving refuse collection in district assemblies through outsourcing to private agencies:**

A case study of Kumasi Metropolitan Assembly (KMA)

Please tick where appropriate and state where necessary (applicable).

*(N.B. Any information given would be held highly confidential.)*





1. Name of company \_\_\_\_\_
2. Position of the respondent \_\_\_\_\_
3. Do you think it is prudent for the KMA to outsource refuse collection?
- Yes ☐
- No ☐
- Maybe ☐
4. How long has it been since your company was contracted by the assembly to help in their sanitation maintenance mandate to the metropolis?
- Less than 1 Year
- 1 – 4 Yrs ☐
- 5 - 9 Yrs ☐
- 10 – 14 Yrs ☐
- More than 15 Yrs ☐
5. For how long has your company been contracted to support good sanitation maintenance in the Kumasi metropolis by the KMA.
- 1 – 4 Yrs ☐
- 5 - 9 Yrs ☐
- 10 – 14 Yrs ☐
- More than 15 Yrs ☐
6. Have your company been able to meet your mandate of refuse collection as agreed in the contract you signed with the KMA?
- Yes ☐
- No ☐
- Maybe ☐
- Not sure ☐
7. Do you think the assembly's engagement with your firm has been beneficial to the Kumasi metropolis?
- Yes ☐
- No ☐
- Maybe ☐
- Not sure ☐

8. Is the KMA able to meet their financial obligations to your company as stated in the contract agreement?

- Yes ☐  
No ☐  
Maybe ☐  
Not sure ☐

9. Has the assembly been prompt in their payments to your organization for the services they have contracted you to provide?

- Yes ☐  
No ☐  
Maybe ☐  
Not sure ☐

KNUST

10. In your opinion how sustainable is this strategy of engaging external vendors like you to aid refuse collection projects in the metropolis?

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11. Do you think the assembly could consider other strategic options in proper sanitation maintenance in the city other than outsourcing?

- Yes ☐  
No ☐  
Maybe ☐  
Not sure ☐

