

**EFFECTIVENESS OF GARBAGE COLLECTION BY PRIVATE COMPANIES: A
CASE STUDY OF LUSAKA**

BY

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**A Dissertation Submitted to the University of Zambia
in Partial Fulfilment of the Requirements for the Award of the Degree of Master of Arts
in Public Administration**

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DECLARATION

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ABSTRACT

For many years, garbage collection services in Lusaka have been inadequate for a large city. In Lusaka, only, an estimated 15 per cent, of the municipal solid waste generated, is collected, resulting in a build-up of waste in open spaces and along streets in or around the city, (UN-HABITAT, 2007: 14). In order for the citizens to have affordable waste management services, the Lusaka City Council implemented the new waste management system through the Waste Management Unit of the council in partnership with the private sector. This arrangement is being implemented through the Public Private Partnership in waste management. Public-Private Partnerships are arrangements between the government and the private sector entities for the purpose of providing public infrastructure, community facilities and related services including garbage collection. Such partnerships are characterized by the sharing of investment, risk and reward between partners.

The purpose of the study was to examine the effectiveness of private companies involved in garbage collection in Lusaka city. The objectives of the study were to: analyse the policy guidelines related to the operations of private companies in garbage collection; describe the processes involved in the disposal of garbage by the private companies in Lusaka and assess the performance of the private companies which collect garbage in Lusaka.

A case study research design was employed, using a mixed method approach to conduct this research. The sample size was 200; comprising of four key informants from the Ministry of Local Government and Housing, six from the Lusaka City Council (Waste Management Unit) and nine officials from three garbage collection private companies (Catrone, Citimop and Clean Fast) and 181 members of the public from four Waste Management Districts in Lusaka city. To obtain insight, questionnaires were administered and interviews were conducted with both service providers and residents using purposive sampling and systematic sampling.

The findings established that the process of garbage disposal by the two private companies began with the registration and licensing of the company to collect the garbage. This involved bidding through newspaper tenders and conducting capacity assessment to ensure that the private company had the recommended machinery and equipment. The most cardinal equipment were the three recommended vehicles namely; a tipper truck, compactor and a

skip truck. However, the guidelines were not always followed by the two private companies and the company that did not adhere to the laid down policies risked its contract terminated. The findings revealed that monitoring by the municipal authorities was conducted once a month and not on a daily basis and this led to the mushrooming of illegal collectors in the Waste Management Districts. The performance of the existing registered private companies was rated good. However, the study revealed that 53 of the respondents representing 58 per cent had little or no knowledge of the policy guidelines guiding the operations of the private companies because no proper communication and education was provided to them. However, 16 individuals representing 18 per cent who knew about the policy guidelines together with the key informants confirmed that there were several policy guidelines guiding the operations of the private companies collecting waste. These guidelines included the collecting of waste at least once a week, having a formal contract to do the collection and providing waste collection bags to the various households. The results established that two of the companies had adequate transportation systems and on average, used open trucks to transport the garbage as opposed to the derisory small vans that would result in spilling of waste in transit. The results obtained showed that the communication between the company and the clients was adequate as the majority of the respondents reported that they had adequate communication in cases of delays. Similarly, the staff at the garbage collecting companies were generally found to be wearing protective clothing during the collection of garbage. The results further revealed that the residents of the Waste Management districts were not provided with receptacles to store their garbage which is contrary to the regulations and policies which were in place.

The study recommended that the Ministry of Local Government and Housing should:

- (i) Involve the private sector, the general public and the municipal councils in the disposal process by informing and educating the general public on the existing policies on waste management as this would be a big step to achieving sustainable waste management.
- (ii) Improve the organisational capacity of the authorities (municipal council). This would enhance adequate monitoring, support and supervision in the process of garbage collection and disposal thereby curbing illegal garbage collectors.
- (iii) Lusaka City Council- Waste Management Unit should review the terms of the contracts and allow the private companies to prosecute defaulting clients.
- (iv) the Ministry should identify materials that could be

recycled and also educate the households on the importance of reusing, recycling and reducing packaging to avoid the high rate of unnecessary waste generation.

(v) Summarise and simplify the laws and regulations as well as other policies that regulate waste management by making them available to all the citizens so as to have an informed citizenry.

DEDICATION

This work is dedicated to all policymakers in the Ministry of Local Government, public and private institutions involved in waste management, local councils, community-based enterprises (CBEs), students of public administration and public policy makers in Zambia.

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ABBREVIATIONS

| | |
|-------|--|
| CBEs | Community-Based Enterprises |
| CBOs | Community-Based Organisations |
| CU | Commercial Utility |
| ECZ | Environmental Council of Zambia |
| EPPCA | Environmental Protection and Pollution Control Act |
| LCC | Lusaka City Council |
| MLGH | Ministry of Local Government and Housing |
| MoH | Ministry of Health |
| NGOs | Non-Governmental Organisations |
| PFI | Private Finance Initiative |
| PPP | Public-Private Partnerships |
| PSRP | Public Service Reform Programme |
| RCCs | Refuse Collection Charges |
| SADC | Southern African Development Community |
| SPSS | Statistical Package for Social Sciences |
| SWCPC | Solid Waste Collection Private Contractors |
| WMD | Waste Management District |
| WMU | Waste Management Unit |
| ZEMA | Zambia Environmental Management Agency |
| ZRA | Zambia Revenue Authority |

CHAPTER ONE: INTRODUCTION

1.1 Introduction

Chapter one provides a historical outline of the evolution of garbage collection in Zambia before the involvement of the private companies. The Chapter also defines the various forms of privatisation with the focus being given to franchising of garbage collection in Zambia. It further presents the statement of the problem, the rationale of the study, general and specific objectives, research questions, literature review and conceptual framework of the study. It also looks at the methodology and limitations of the study.

Many city administrators have not been able to cope with the rapid escalation of solid waste problem, and, consequently, have left densely settled areas with no service, polluted precious air by open burning of wastes, damaged land and water resources by careless dumping of the residues of our proud civilisation (Coad, 2005:1). The public sector is the main actor in the production and distribution of goods and services in most economies, especially those that embrace centrally planned economic policies, like Tanzania (Ngowi, 2006:3). Garbage collection is one of the services that the public sector is expected to provide.

Prior to the 1990s, institutions involved in waste management in Lusaka were local authorities or councils and the Ministry of Health (MoH). These implemented the Public Health Act and the Local Government Act which provided for street cleaning and sanitation. Local Councils were responsible for waste collection and managing of disposal sites. (Mulenga, 2003). According to UN-HABITAT (2008), the Lusaka City Council historically delivered solid waste management services directly financed through normal municipal financing channels such as grants and property rentals on council-owned properties or property rates. From the mid-1980 to 1990's financing of municipal waste management services through these traditional means was no longer attainable (UN-HABITAT, 2008). This was attributed mainly to the declining national economy which saw a significant decline in government grants to local authorities inclusive. The situation was exacerbated by the sale of council-owned housing stock which was one of the major sources of income for local authorities in form of rentals. Consequently, delivery of waste management services crumbled and was limited to sporadic collections at public trading places (markets) or emergency response during disease outbreaks mainly Cholera.

Sakala *et al.*, (1999: 177) notes that as elsewhere, Zambian state-owned enterprises failed to perform for a variety of reasons including application of inappropriate technology; total dependence on processing of imported raw materials; inexperienced management; misappropriation of resources by officials appointed by the government to run them and operation in monopolistic environments with no competition. The implication of this was that state-owned enterprises were typically inefficient, which affected their financial viability, in turn, requiring the government to subsidise operations (Sakala *et al.*, 1999: 177).

The government, therefore, considered it prudent to reverse the status quo by promoting strong private sector participation in the economy supported by economic liberalisation. Zambia became one of the earlier countries to embark on a major privatisation exercise as part of its economic reform programme in 1992 soon after the Movement for Multi-Party Democracy government came to power (Sakala, 1999: 177).

UN-Habitat (2003: 14) states that finance is usually the paramount consideration driving governments to involve the private sector in water and sanitation utilities. Arguments and evidence favouring private sector participation may be influential. Political shifts can make a difference. In recent years, however, public sector decisions to radically increase the involvement of private enterprises are almost always related to the need for finance, even when undertaken by pro-private sector governments. Both developed and developing countries are supporting the Public–Private Partnership (PPP) arrangement in the provision of infrastructure, goods and services, garbage collection included.

Lusaka is experiencing typical urban problems associated with developments such as population growth, high levels of urbanisation and unemployment, a lack of service and inadequate waste management (UN-HABITAT, 2007: 6). Garbage collection is one of the typical problems associated with urbanisation and the Lusaka City Council has challenges in efficiently and effectively providing this service to the population. In other parts of the city, the private sector came in to fill the void left by the council by providing waste collection services to those who can afford to pay directly. Zambia has about 53 registered private transporters of waste which collect 2 per cent of municipal waste in Lusaka town, and about 50 per cent of waste in the mining towns on the Copperbelt (Palczynski, 2002). The involvement of the private sector or PPP's in the service delivery of garbage collection is one form of privatisation.

Due to the lack of funding and no sustainable waste management system, the Public Health Department of Lusaka City Council currently only services the Central Business District (CBD), hospitals, markets and commercial institutions. In Lusaka, only an estimated 15% of the municipal solid waste generated is collected and results in a build-up of waste in open spaces along the streets around the city. The Lusaka City Council implemented a new waste management system through the Waste Management Unit that involves a partnership with private companies in the collection of waste and its disposal at the Chunga landfill. This is done in order to ensure that the city's inhabitants have access to affordable and efficient waste management services. The system which was developed in 2003 works with the private sector at two levels; the franchise contractors providing a service to conventional housing areas and Community-Based Enterprises (CBE's) in Peri-urban areas.

1.2 Background

1.2.1 Overview

Cities and towns all over the world are experiencing a very high rate of urbanisation explained by continued urban drift and natural increase of the population. (Africa Insight Journal, 2005). Due to rapid urbanisation, cities now accommodate huge populations, most of which live in unplanned settlements and, consequently, place a strain on governments, both local and national to deliver basic services particularly to the poor. This scenario is further complicated by the lack of capacity in many countries in the developing world in terms of fiscal and human resources as well as administrative incapacity to provide the people with infrastructure and services (ibid). The result has been the rapid deterioration of municipal services, especially in unplanned settlements. Among these services, garbage collection is the most neglected. In simple terms, the unprecedented rate of urbanisation, coupled with the municipality's lack of adequate capacity, has compromised the delivery of quantitative and qualitative infrastructure services efficiently and effectively in their areas of jurisdiction.

The inefficiencies of public organisations led in the early 1980's, to the emergence of the so-called New Public Management in the United Kingdom (under Margaret Thatcher) and in other countries, mostly ones with Anglo – Saxon traditions, (Hammami *et al.*, WP/06/99: 5). The main goal of this innovation was to introduce implicity in public administration, the functioning principles of private firms (ibid). Palmer (2009) in Munera (2012) argues that New Public Management focuses on the management of public services carried out by the

private sector with management changes. The new management aimed at reinventing the institutional structure, modernising the state and improving the management of public enterprises, (ibid). Its emergence was inspired by the need to reduce public spending and inefficiency and to overcome lack of managerial skills in public organisations (ibid). In retrospect, this innovation was arguably one of the key reforms that made Public-Private Partnerships popular (ibid).

Public-Private Partnerships are arrangements between government and the private sector entities for the purpose of providing public infrastructure, community facilities and related services. Such partnerships are characterised by sharing of investment, risk and reward between partners.

A standard argument for attracting private investment is to establish stable microeconomic conditions, adequate tariff regimes, a track record of honouring commitments, and reasonable economic policies, (Hammami *et al.*, 1999: 7). Another variable that affects private sector incentives to engage in Public-Private-Partnership arrangements is the exchange of risk (ibid).

1.2.2 Solid Waste Collection in Zambia

Solid waste collection is a service and can be likened to public urban transport where trip generation, route planning and vehicle scheduling are very paramount for an efficient and effective service (Kwarteng, 2011). Solid waste collection involves a large fleet of vehicles and solid waste generation and storage at different locations which have to be managed. It requires participation from all waste generators to ensure that the waste is passed to the collectors at the right time and in the right form (Coad, 2003). This requires the involvement of all stakeholders in order to generate and receive ideas, to create ownership and to inform members of the public.

Not more than half of the waste generated in the large cities of Latin America, Africa and the Middle East is collected by municipal authorities (Gidman *et al.*, 1995). The Danish government through Danida provided support within the environment in both rural and urban areas in Africa in the early eighties (Zambia Case Study, 2010). This assistance to countries encompasses support to management and conservation of natural resources, coastal shores protection, waste management, air pollution control and capacity building environmental

institutions within government and non-state actors or civil society organisations. (Zambia Case Study, 2010). Over the period, Danida has increased its use of programmatic approaches in its bilateral environmental support. These approaches are based on the principle of coordinated support for a locally owned programme of development and intended to improve country ownership, use of local systems as well as enhanced donor harmonisation. Indeed private sector participation in solid waste management is a direct result of Danida support to the Lusaka waste management project that operated under the municipality from 2001 to 2007. The Lusaka Solid Waste (LSW) project was supported through the Lusaka City Council (ibid).

As part of the solution, some cities and towns had privatised solid waste management and/or involved the communities in the management of solid waste by introducing community-based solid waste management. According to the International Labour Organisation Technical Handout (2001: 13-14), Lusaka, the capital and largest city of the country had a population growth rate of 6.2 per cent per year in 1990 compared to the country's population growth rate of 3.4 per cent in the same year (1990 census). The city extended its boundaries from 93 square kilometres in 1970 to 360 square kilometres (ibid). The main waste streams in Lusaka city include domestic, commercial, industrial and hazardous waste. Urban growth resulted in increased amounts of waste. Limited financial capacity and inadequate trained human resource made it difficult for the local authority to fulfil its obligations concerning waste management. The problem was exacerbated by inadequate infrastructure especially for non-municipal waste and the lack of recycling facilities. Garbage generated from all sectors of the city's economy is not adequately managed. This is observed by the heaps of garbage that is visibly seen in low density, medium density and high-density areas in Lusaka. Additionally, serious problems with management of solid waste were observed in Lusaka (Zambia) where 90 per cent of the 1400 tonnes of municipal waste produced daily were left uncontrolled (Palczynski, 2002). This has resulted in the public sector involving the private sector order for the population to have an efficient and effective service. The private sector in garbage collection in Lusaka was brought on board through franchising which is one of the forms of privatisation.

1.2.3 Defining Privatisation

Privatisation is defined as the process of transferring property from public to private ownership and/or transferring the management of a service or activity from the government to a private sector. Estrin (2007: 2) states that privatisation is a process whereby the ownership of the state's productive assets, often utilities or large industrial enterprises are transferred into private hands. There are various forms of privatisation namely; complete privatisation, privatisation of operations, for example, toll gates; contracting; franchising; and open competition. Privatisation brings about a more efficient use of resources and promotes economic growth and development (Sakala *et al.*, 1999:177).

1.2.3.1 Complete Privatisation

This is the outright sale of government assets to the private sector. This type of privatisation not only confers assets but also related responsibilities of ownership to the private sector. The government-run industries and assets are generally being completely privatised through one of the three main ways. The first way is share issue privatisation. The government sells shares of the government-run company which can then be traded on various stock markets (Brooks, 2006). Share issue privatisation has been the most prevalent method used though a developed secondary market is necessary. The second method is through asset sale privatisation. In this method, the whole firm or asset is sold to an investor. This is usually done by auction. The final method is voucher privatisation in which shares of ownership are distributed to all citizens for free or for a very low price. Complete privatisations have been seen mostly in the transition economies of Central and Eastern Europe in recent years. Complete privatisation has been somewhat rare in the United States due to the market-driven economy and federal regulations associated with the sale of public assets that were built using federal grants.

1.2.3.2 Privatisation of Operations

The privatisation of operations is the turning over of managerial and operational responsibilities of publicly owned facilities to private sector firms. This kind of privatisation is often seen with the running of sports and concert venues (Brooks, 2006). Under this arrangement, the private sector firm generates revenue through the collection of fees from individual customers of the government assets. This kind of arrangement can also be seen in transactions concerning the operations and maintenance of toll bridges or toll gates in Zambia.

1.2.3.3 Contracting Out

This is the production of designated services by a private firm under a contract. Under this scenario, the private sector is paid directly by the government for their services. The government finances these services through the taxes and collection of user fees. This type of arrangement is commonly used for collection and disposal of solid waste. Other types of services that have been privatised through this type of agreement include security services, data processing services and consulting services for numerous professions (Brooks, 2006).

1.2.3.4 Franchising

This is the awarding of exclusive rights to perform services within a specific geographic area to a private firm by a government unit. The private firm generates revenue by collecting user fees. Cable television is the most common example of this kind of privatisation. Utilities such as electricity, gas and water services could fall under this category. In Lusaka, the waste management unit is utilising this kind of privatisation through engaging the private companies to collect garbage on their behalf. The private companies provide a service on behalf of the Lusaka City Council and collect the corresponding fees from the clients/users.

1.2.3.5 Open Competition

Open competition is the last form of privatisation under this classification. Open competition is similar to pure competition as many private firms are allowed to compete for customers within a government jurisdiction. This type of privatisation can potentially be seen in telephone and internet service providers. This type of privatisation is not appropriate for some services as it most likely would not be efficient to have suppliers of electricity, gas or water service (Brooks, 2006).

There are several reasons for introducing privatisation and these include cost reduction, risk transfer, a source of public revenue, a desire for higher level service, a need for expertise and flexibility.

It has been observed that the private sector is very successful and plays a major role in waste management in industrialised nations. For instance, in the United States of America, 12,000 private firms participated in the collection, transportation, treatment and final disposal of solid wastes. Small firms and a few large companies were the operators of approximately 80

per cent of domestic, commercial and industrial urban services (Coad, 2005). In many industrialised countries, solid waste management industry is one of the most important industrial sectors in economic terms. Similarly, private participation in solid waste management has been introduced in developing countries including Zambia.

1.2.4 The Public-Private Partnership Act and Policy in Zambia

In 2008, the government approved a policy framework for the implementation of the Public-Private Partnerships in Zambia, Zambia Development Agency (ZDA) (2014:2). This sets out governments' strategic objective to facilitate the provision of infrastructure and effective delivery of social services using the Public-Private Partnership arrangements in order to ensure that economic growth is attained through enhanced productivity, improved competitiveness and wealth creation, ZDA (2014: 2). Following the Policy pronouncement by the government, Parliament in August 2009, passed the Public Private Partnership Act No. 14 of 2009 which aims at promoting and facilitating implementation of privately financed public infrastructure in Zambia, ZDA (2014: 2).

A Public-Private Partnership (PPP) refers to the collaboration between the public sector (Government and/or its agencies) and the private sector (profit-driven individuals or corporate entities) to share benefits and risks in undertaking specific projects (ibid). Thus, any form of partnership between public authorities and private sector for construction, management and/or provision of an infrastructure or public service can be considered a PPP, (ZDA 2014:2).

PPPs' rely on the expectation that the private sector is better suited to provide an infrastructure or public service through:

- High operating efficiency
- Better service quality/reliability
- More cost-efficient use of public money on other public services
- Better value for money
- Transfer of some of the risks to the private sector

- Transparency

In order to create an enabling environment for the involvement of the private sector, the Central government through Parliament has enacted legislation and policies that allow the private companies to provide public services including garbage collection in various Waste Management Districts. The Public-Private Partnership policy – 2007 and the Public-Private Partnership Act of 2009 were enacted accordingly.

The Act promotes and facilitates the implementation of privately financed infrastructure projects and effective delivery of social services by enhancing transparency, fairness and long-term sustainability and removing undesirable restrictions on private sector participation in the provision of social sector services and the development and operation of public infrastructure. The Act also facilitates the establishment of a Public-Private Partnership unit and provides for its functions which among others include; establish the Public-Private Partnership council and provide for its functions. It further provides for Public-Private Partnership for construction and operation of new infrastructure facilities and systems and maintenance, rehabilitation, modernization, expansion and operation of existing infrastructure facilities and systems and the provision of social sector services. It also provides for the development of general principles of transparency, economy and fairness in the award of contracts by public authorities through the establishment of specific procedures for the award of infrastructure projects and facilities and provisions of social sector services and rules governing Public- Private inception, procurement, contracting and management of PPP's; provide for the implementation of Public- Private Partnership arrangements between the contracting authorities and concessionaires; and provide for matters connected with, or incidental to the foregoing (PPP Policy and Act of 2009: 79).

Public-Private Partnership agreement implies a contractual agreement between a contracting authority thereby being Lusaka Waste Management Unit and a concessionaire; the private companies involved in garbage collection made in accordance with the Policy and Act. The concessionaire:

- (a) Undertakes to perform or undertake any infrastructure project or infrastructure facility as specified or as prescribed;
- (b) Undertakes to provide or provides such social sector services as may be prescribed;

- (c) Assumes substantial financial, technical and operational risks in connection with the performance of the institutional function or the use of state property;
- (d) Receives consideration for performing a public function or utilising state property, either by way of:
 - (i) A fee from any revenue fund or a Ministry's budgetary fund;
 - (ii) User levies collected by the concessionaire from users or customers for a service provided by it; or
 - (iii) A combination of the consideration paid under sub-paragraphs (i) and (ii) (Government Printers PPP Act No. 14 of 2009: 82).

1.3 Statement of the Problem

The Public-Private Partnerships in garbage collection were established by the Lusaka City Council – Waste Management Unit in 2003, on the basis that they improve efficiency in solid waste management as they were perceived to be more effective considering that they had the necessary expertise and improved standards.

However, the scenario in Zambia, especially Lusaka, is alarming as garbage is visibly noted in designated areas particularly low, medium and high-density areas (e.g., unplanned settlements) and markets. This is despite the elaboration of the Lusaka City Council (Municipal Solid Waste Management) By-laws of 2004 which state that all waste generators in Lusaka; residents, commercial outlets, institutions, industry and others had to register with respective waste management companies, utilise their services and pay the corresponding fee. All other ways of waste disposal, including the use of refuse pits or the burning of waste even in yards, are no longer allowed. Residents of various townships in Lusaka accused the Lusaka City Council of failing to monitor garbage collection activities carried out by contracted private companies. The researcher, therefore, intended to find out whether government policies involved in waste management had a claim to the effectiveness of private companies collecting garbage under this study.

1.4. Objectives

1.4.1 General Objective

To examine the effectiveness of garbage collection by private companies in Lusaka.

1.4.2 Specific Objectives

The specific objectives of the study are to:

- Analyse the policy guidelines related to the operations of private companies in garbage collection;
- Describe the processes involved in the disposal of garbage by the private companies in Lusaka; and
- Assess the performance of the private companies which collect garbage in Lusaka

1.5 Research Questions

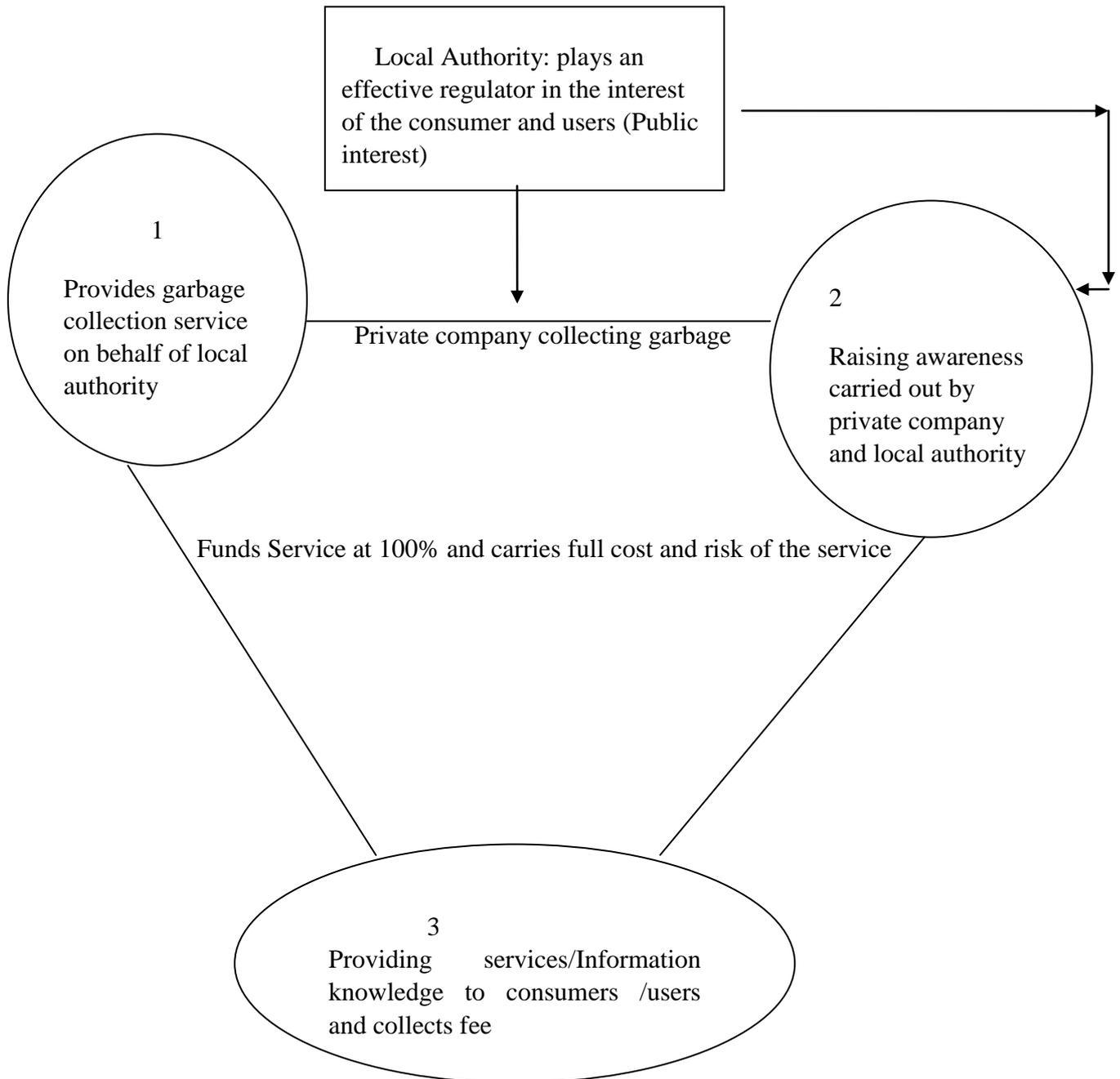
- i) What are the policies that govern the operations of private companies that collect garbage?
- ii) What processes are involved in the disposal of garbage by private companies?
- iii) How do clients rate the performance of the private companies collecting garbage?

1.6 Conceptual Framework

1.6.1 Basic Framework

The conceptual framework used in this study is based on factors which if taken into consideration would result in effective garbage collection conditions in waste management districts managed by the private companies collecting garbage. As can be seen in Figure 1.1, effective garbage collection is dependent on a number of factors which among others include the following; service, raising awareness and providing services/information. It is expected that if these factors are taken into consideration by the relevant policymakers, garbage collection in waste management districts will improve whilst at the same time visibility of garbage in surrounding areas managed by formally registered private companies in Lusaka will be reduced.

Figure 1.1: Conceptual Model of PPP in Local Government Solid Waste Management Service Delivery.



Over the years, there has been a debate on the best and most effective way to deliver basic services such as garbage collection. However, despite many debates, the provision of such services should be about providing services that are effective, affordable and adequate.

Heaps of garbage are visibly seen in the waste management districts of Lusaka where the registered private companies are operating, thus the study attempted to examine the effectiveness of garbage collection by private companies. The understanding of the link between various concepts that relate to garbage collection service delivery is very crucial. The Central Government is the main provider of services in all areas of their jurisdiction. These services are provided for through the local authorities as they are given some freedom to discharge their duties without interference within the law (Pelekamoyo, 1997:7).

In the diagram above, the local authority is responsible for providing garbage collection to members of the public and provides the service in partnership with the private companies. The role of the local authority through the Waste Management Unit is to monitor and regulate the activities of the private companies collecting garbage in conformity with the enacted policies. The state plays the role of an effective regulator in the interest of the consumer and the users (public interest). The role of the regulator is in conformity with the existing policy guideline enacted by parliament. Thus, this study attempted to analyse the policy guidelines related to the operations of private companies in garbage collection. Service is generally defined as a system supplying a public need such as transport, communications, or utilities such as water or electricity and also garbage collection. Service in this dissertation means supplying a need which is garbage collection through the door to door collection. Garbage collection in this study is composed of two stages. In the first stage, garbage in specific households of the waste management districts where the private companies operate is placed in the required receptacles by the members of the households. In the second and final stage, garbage is collected by the prescribed transport owned by the private companies to the final dumping site which is the landfill. The study described the processes involved in the garbage disposal. The private companies are responsible for providing information and raising awareness in form of knowledge on the good practices of garbage disposal to the members of the public in the waste management districts. However, garbage is visibly noticed in surrounding areas. The local authority is also responsible for demarcating the waste management districts and raising awareness by informing the members of the public on good garbage disposal practices. In the case of the Public-Private Partnership in garbage collection, the private company provides the service directly to the end users or clients (members of the public) and collects a fee for providing the service.

Knowledge of policy guidelines refers to the information disseminated and accessed regarding the obligations of the private companies collecting waste and in the particular Waste Management Districts in a manner to enable one make an informed decision.

Ruiters and Matji (2016: 293) state that meaningful involvement of the private sector is, however, not automatic but subjected to important prerequisites for such financing i.e political commitment, enabling legislation, evaluation framework, expertise, project prioritisation, risk management and standardisation. This statement applies to the involvement of the private companies in Zambia because there are several prerequisites which the Lusaka City Council expects the private companies to meet before being engaged in garbage collection.

There are parameters in which the private companies collecting garbage operate and these range from, technical risk, financial risk, contractual risk and roles and responsibilities of state institutions. Other parameters are affordability and revenue flows, socio-political concerns or issues and funds following function.

In terms of technical, contractual and financial risk, 100 per cent or full risk is carried out by the private sector. The private sector, in this dissertation, refers to the formally registered private companies collecting garbage in the waste management district. With regard to the role of the state, the private companies implement the garbage collection service on behalf of the local government. The local government needs to be a very strong and independent regulator of the garbage collection services being offered by the private companies. The private sector invests on the basis of return on investment or return on equity (Ruiters and Matji, 2016: 295). This simply means that affordability and revenue flows are of highest priority to the private companies involved in garbage collection. The local authority has a role in creating an enabling environment in order to curb negative socio-political concerns and issues as they can affect the business of the private companies. The study also assesses the performance of the private companies which collect garbage in Lusaka. Political players such as councillors and members of parliament have a vital role to play in creating an enabling environment for the private companies to invest in the business of garbage collection. These figures are closer to the members of the public especially when it comes to campaigning for the party in government and they have to address issues of cleanliness in their communities.

The private companies provide a service through the franchise agreement and recover the cost from the users directly in the Zambian garbage collection setting.

1.6.2 Definitions of Key Terms

Waste is a thing that is in the given time and place, in its actual structure and state not useful to its owner, or an output that has no owner and no purpose (Prongra`cz, 2002:129). On a daily basis, ordinary citizens deal with garbage: discarded things in the household wastebasket. Garbage and waste do not mean the same thing. Essentially, they are not different; ostensibly, they are just not the same. Similarly, waste management is not only about garbage collection, it is, generally, a practical discipline, searching out solutions to individual waste problems: reactionary solutions (ibid).

Waste can take different forms such as solid, liquid, gas or energy in the form of heat or noise (Middleton, 2008:37). Waste management includes solid waste collection, transportation, sorting, recycling, treatment, composting, energy recovery, incineration and disposal (Local Government Act, 2011)

Public-Private Partnership is described as a cooperation between the public sector and private sector in which the government and the private sector carry out a project together on the basis of an agreed division of tasks and risks, each partly retaining its own identity and responsibility (Herpen, 2002:1). Public-Private Partnerships (PPP's) also refer to the innovative methods used by the public sector to contract with the private sector who bring their capital and ability to deliver projects on time and budget, while the public sector retains the responsibility to provide these services to the public and delivers economic development and an improvement in the quality of life'.

Privatisation is, primarily, the process of transferring ownership of a business, enterprise, agency, public service or public property from the public sector (a government) to the private sector either to a business that operates for a profit or to a non-profit organisation.

Franchise is the private sector service provider which is responsible for collecting charges for the service.

Private Sector is defined by Coad (2005: 1) in a very broad way as follows:

- Privately owned and formally registered enterprises that provide services such as contractors, consultants or suppliers;
- Commercialised utilities (also known as government-owned corporation arms-length companies or service councils) which are staffed by public sector employees but have segregated accounts and managerial autonomy. Though they are strictly not in the private sector, they have many of the features of the private sector and should be included as an option when private participation is being considered;
- Joint ventures which are partly owned by government;
- Informal sector enterprises, based on family units or large size, which are not legally registered; and
- Non-governmental organisations (NGO's) which provide services. The laws governing NGO's vary considerably from one country to another but often they are not-for-profit organisations.

Local authority according to Pelekamoyo (1997: 2) as defined by the United Nations is a political subdivision which is constituted by law and has substantial control of local affairs including the power to tax.

1.7 Literature Review

Introduction

The private sector plays an important role in partnering with the government to provide efficient and effective garbage collection services and it is for this reason that the local government should create an enabling environment to attract the private sector to invest so that citizens have a clean and healthy environment. The literature reviewed in this study is from Zambia and other countries. The study will begin by reviewing literature from within Zambia and outline the current state of private sector involvement in solid waste management in Zambia. It will conclude by reviewing literature from countries outside Zambia.

1.7.1 Private Sector Involvement in Garbage Collection in Zambia

In Zambia, the problem of garbage collection became more and more complicated and required long-term sustainable programmes for its solution. This was due to the fact that less

than 20 per cent of urban solid waste was collected and disposed of properly by the City Councils in the country. One factor which led to waste not being effectively managed was the Central Government reducing grants on solid waste management.

1.7.2 Kabwe (Kabwe Municipal Council)

Lessons drawn from the study by Pasi (2014: 75) in her dissertation entitled “An Evaluation on the Impact of Reducing the Central Government Grants on Solid Waste Management in Kabwe, established that the Central Governments’ decision to reduce grants given to the local authorities disabled them economically. Consequently, they had no means to manage the waste in their townships. Additionally, the other measures which the government imposed on local authorities such as selling off all council houses and directing them to withdraw from the provisions of income generating ventures like water supply to residents aggravated the local authorities’ already precarious economic situation. This resulted in the local authorities’ failure to manage the waste in the townships under their jurisdiction. The researcher attributed the failure of the local authorities to the taxation system being inadequately developed and, therefore, the financial basis for public services including solid waste management which was weak as the case was for the Kabwe Municipal Council. The researcher observed that the challenges of solid waste management in Kabwe which comprised inadequate operation funds to support solid waste management activities, inadequate dumping sites resulting into air pollution and spread of diseases implied that people, generally, had a negative attitude towards the environment hence the outbreak of communicable diseases. The significance of this work is that it provides the effects of reduction of the government grants to local authorities which led to the failure of providing basic services such as garbage collection. The researcher discusses the effects of the reduced grants in relation to the environmental health hazards which led to the outbreak of communicable diseases which are harmful to the public. She does not discuss the effectiveness of garbage collection by the private companies. Additionally, the researchers’ study was confined to the Kabwe Municipal Council and not the Waste Management Districts in Lusaka.

1.7.3 Lusaka (University of Zambia)

Other lessons were drawn from a research conducted by Mwansa (2015: 78) in his study ‘An Ethical Assessment of Waste Management at the Great East Road Campus of the University

of Zambia observed that there were no guidelines or policies on waste management at the University of Zambia, (UNZA). Students, staff, cleaners and other members of staff of the University community interviewed, stated that they were not aware of any waste management policy or guidelines on the University of Zambia campus. With regard to the management of waste on the Great East Road Campus, the researcher discovered that the designated waste dumpsites were not well maintained, were not emptied regularly or on time and reflected negatively on the appearance of the campus. The researcher observed that there were unofficial dumpsites on the campus, and also open burning of waste in backyard pits which was not sustainable and resulted in pollution of the environment.

The researcher discovered that the members of staff, students and other stakeholders towards waste management at the Great East Road Campus of the University of Zambia had failed to make adequate use of available bins, signifying a form of behaviour which expressed an attitude that reflected both the virtue and the actual practice of care towards the University of Zambia natural environment. The study, further, revealed that there was a lack of responsibility with regard to the disposal of waste amongst the members of the University community. Mwansa (2014) did not focus on the effectiveness of garbage collection by private companies. He did not analyse the policy guidelines related to the operations of the private companies collecting waste as his focus was on finding out whether the University of Zambia community were aware of the policy guidelines. The researcher did not describe the processes involved in the disposal of garbage by the private companies. This research sought to fill the gap by examining the effectiveness of garbage collection by private companies through analysing the policy guidelines related to the operations of the private companies in Lusaka, the processes of disposal and the performance of the companies.

1.7.4 Lusaka (Kamanga Township)

Research in other areas of Lusaka includes a research conducted by Munthali (2007) in Kamanga compound on ‘Community-Based Strategies’ which revealed that households had their own strategy of disposing of waste depending on the resources at disposal. One strategy included burning of waste generated at household level, storing of waste generated up to such a time it was collected from the household by the business enterprise ‘samarila ukhondo’. Other strategies were burying of waste generated into backyard pits and others such as using the manure or organic waste into backyard gardens. However, the majority of the households

temporarily stored waste generated due to the fact that this was the strategy that suited them. The legal and institutional frameworks were adequate to deal with waste management problems. What lacked was the capacity by the Lusaka City Council to enforce the law. (Munthali, 2007). The United Nations Environment Programme (UNEP, 2005) undertook a worldwide (Africa, Asia, Europe, Latin America and the Caribbean and North America) study of regional overviews and information sources in which various topics regarding waste reduction, collection and transfer, compositing and incineration. The other topics covered are landfills, special wastes, waste characterisation, management and planning, training, public education and financing. Under the topic management and planning, it is observed that African countries, as UNEP (2005: 14) confirms, lack authority to effectively enforce the existing environmental regulations and this is a major problem as performance and compliance monitoring as well as enforcement of regulations are still not routinely conducted.

The researcher did not specify the effectiveness of formally registered private enterprises in the collection of garbage and also the adherence to the enacted By-laws by the local authority. The study is confined to community-based strategies on waste management in Kamanga Compound in Lusaka and not other areas serviced by the formal private garbage collecting companies.

1.7.5 Lusaka (Kaunda Square)

Chaampa (2014) conducted a research to investigate the levels of environmental awareness on solid waste in Kaunda Square. He observed that the majority of the people in Kaunda Square were not aware of the existence of legal provisions. This meant that the Council had a challenge of ensuring that people were empowered with information and made aware of such legal provisions. This research was concerned with investigating the level of environmental awareness among the people of Kaunda Square on solid waste management system and identifying the challenges that had led to increasing accumulation of solid wastes in Kaunda Square and other parts of the city. It did not assess the effectiveness garbage collection done by the private companies involved in solid waste management.

Sikazwe (2004) aimed at investigating factors influencing indiscriminate disposal of solid waste in Kaunda Square Lusaka. His findings revealed that the Lusaka City Council had no

capacity including equipment, funding and resources to manage solid waste. This scenario opened up prospects for private sector participation in solid waste management in Kaunda Square. The study focused on the generation and storage of waste practices at household and community level. It was also observed that limited community involvement limits residents' participation and, therefore, the residents were not able to take up the roles in the management of waste. The study concluded that focus group discussions, surveys and public meetings were some necessary tools that could be used in determining the concerns and opinions of various stakeholders. The results further indicated that awareness amongst the population had built up naturally to a point where waste was regarded as an important use. This research did not consider the effectiveness of private companies involved in garbage collection in the waste management districts. It investigated factors that influenced indiscriminate disposal of solid waste in Kaunda Square.

Ntambo (2015) carried out a research to establish the effectiveness of contracting out solid waste management in Lusaka. The researcher concluded that contracting out of solid waste management had not improved service delivery. It was observed that challenges faced by service providers were attributed to; the lack of concern by the Council as service providers had to collect their own fees, high staff turnover, frequent breakdown of machinery due to impassable areas and competition with illegal service providers. It was also noted that solid waste management in Lusaka had been characterised by inefficient collection methods, insufficient coverage of collection system and improper disposal of municipal solid wastes often by the use of informal sector actors in the name of privatisation. It was observed that Zambia, like many other third world countries, had no specific waste management legislation.

The aim of this research was to find out the extent to which the residents of Lusaka had effectively benefited from the programme of contracting out solid waste management. It did not assess the effectiveness of garbage collection carried out by the private companies.

1.7.6 Lusaka Urban

Bosco (2015: 39) carried out a research entitled, An Ethical Evaluation of Awareness and Attitudes Regarding the Use and Disposal of Plastic Bags in Lusaka Urban. The findings revealed that whereas shoppers had some knowledge about the disposal of plastic wastes and felt that the Lusaka City Council (LCC) was doing a certain amount of control about the

problem of illegal dumping of waste, they tended to largely feel that the LCC was not doing enough. Consequently, they placed the responsibility of disposing of these wastes largely on the LCC without undertaking personal or communal responsibility for their own behaviour in throwing away plastic waste indiscriminately. Furthermore, respondents felt that the government was at fault in not having a mandatory policy enforced with respect to the disposal of waste. Manufacturers of plastics, supermarket companies and grocery stores seemed to be more concerned about the financial success of their business than about the threat to the environment.

However, the manufacturers expressed a willingness to comply with a mandatory government policy regarding the use of plastic bags and bottles if it were laid down. At present, however, there is no national law regarding littering, although there is a By-law of the LCC and a campaign had been started to keep Lusaka clean. The researchers' study recommended that the government should enact a law that bans the use of plastic bags by introducing biodegradable materials or re-introducing paper bags. It should also put in place and enforce a mandatory policy with regard to littering in the streets in order to strengthen the keep Zambia clean campaign and generate virtues in shoppers and others (Bosco, 2015: 41).

Bosco (2015) did not assess the effectiveness of garbage collection done by private companies his main focus was on the awareness and attitudes regarding the use and disposal of plastic bags in Lusaka Urban.

As a way of summarising local literature, it can be noted that though some scholars have written on the subject under discussion, there still remained some gaps which needed to be filled. Literature from Zambia, did not focus on the effectiveness of garbage collection by private companies in line with the policies guiding their operations, processes involved in garbage collection and the performance of the private companies involved in garbage collection. Hence this study was able to focus on the effectiveness of garbage collection by private companies by analysing the earlier stated objectives.

1.7.7 Current State of Private Sector Provision of Solid Waste Management Services in Peru

Coad (2005) conducted a research to present a picture of the current state of private sector provision of solid waste management services. The author stated that for many years, public

cleaning services in most towns in Peru had been handled directly by the municipal governments. Since 1990's, as a result of a series of laws passed to foster the participation of private investors in the provision of public services, the private companies were contracted to handle solid waste services, often by means of contracts lasting only one year. In Lima, several unsuccessful attempts had been made to privatise sanitation services in 1981. In 1995, after an international call for bids, the municipal government-assigned public sanitation services to a foreign-owned consortium for a period of 10 years (recently duration of five to ten years become the norm for solid waste management contracts). The contractor was engaged to sweep avenues, clean squares and parks, and operate a transfer station and two sanitary landfills. The city had a population of over seven million, generating an average of 500 metric tons of waste each day. A survey carried out by the metropolitan municipality of Lima in 1994 revealed that 65 per cent of the districts of metropolitan municipality Lima provided waste management services by contracting formal companies. Most contracts were for periods of up to one year; the survey further revealed that only three districts (7%) had longer (10 year) contracts. It was also estimated that it was not known where almost a third of the collected waste was dumped. The survey exposed a range of shortcomings including (or because of) the lack of effective monitoring. From his studies, Coad's emphasis was on practical information that could be applied to enable future partnerships between the public and private sectors to avoid problems, whether political, institutional, financial, social or technical. His study began with reasons that motivated authorities to consider involving the private sector, since it was believed that these reasons and the associated expectations and concerns that had important influence on the way in which private enterprise should be invited to participate. Much of his study was investigative and considered the preparatory work that was necessary before any official documents were prepared as this was important in developing an appropriate strategy for private sector participation. His key finding was that "success in the private sector participation depended more on the local government client than on the private sector service provider" (Coad, 2005:125). This came as a surprise to those in the government circles who regarded private sector participation as a means of getting rid of the responsibility for solid waste management. Coad concluded that the golden word that repeatedly stood out was 'partnership'. Many problems were caused by the lack of understanding that both public and private sectors needed to work together as partners, each aware of the situation facing and challenging the other.

It would, therefore, be important for this study to pick a leaf from Coad's findings by examining and learning from the successes and failures as they differ from one country to another, not only in economic and geographical terms but also in terms of administrative practices, public concerns and perceptions. However, He did not assess the effectiveness of garbage collection services carried out by private companies in Zambia. Therefore, this research aims at filling the gap of analysing the policy guidelines related to the operations of private companies in garbage collection, describing the processes involved and assess the performance of the private companies.

1.7.8 Assessment of the Performance of Private Sector Service Providers Involved in Solid Waste Management in Ghana, Egypt, South Africa, Kenya, and Tanzania Ghana

Another related study to assess the performance of service providers involved in solid waste management was conducted by Kwarteng and Dijk (2008). The study was conducted to provide an understanding of the performance drivers, constraints and challenges of the private sector service providers. Coad's study, on the other hand, focuses on the actual contracts and their period of existence. A survey of 15 private companies was conducted in Accra, Tema and Lumasi to assess the solid waste vehicle productivity and utilisation.

The performance of service providers was assessed in terms of market share of companies, productive efficiency (productivity) utilisation of waste collection vehicles. The methodology was descriptive as the largest cities were chosen for the study. A sample of fifteen (15) companies out of thirty-four (34) in the three cities was selected (ibid). The main types of collection service in the three cities are communal collection and house to house. Their key findings were that analysis of the performance of private companies varied from company to company. This productivity depended on how the companies organised their operations to utilise the vehicles in terms of the number of trips made in a day and the load.

Kwarteng and Dijk (2008) concluded that the maximum productivity was achieved by ensuring that each vehicle load was full and maximum number of trips were made per day. The results revealed that the average utilisation value was 61 per cent and seven companies were below this average. The research did not focus on analysing the policy guidelines and describing the processes of garbage disposal of private companies collecting garbage, the

researchers focused on assessing the performance of service providers, constraints and challenges with regards solid waste vehicle productivity and utilisation.

1.7.9 Egypt (Cairo), Kenya (Nairobi), South Africa (Cape Town) and Ghana (Accra)

Another study was carried out by Palczynski (2002) focusing on waste management practices in which the author provided a detailed review of waste management practices in major municipalities based on project consultant's visit to Cairo, Nairobi, Cape Town and Accra in October 2000. All four municipalities were important residential business, commercial and industrial centres in their respective countries. The selected locations of the municipalities represented the cross-continental character of the study and all four had a population of over one million inhabitants. Each of the selected municipalities had its own, unique waste management practices and regulatory framework. Also, differences existed between the municipalities predominant commercial activities. Cairo was an industrialised municipality; Cape Town was a commercial centre; Nairobi had well-developed tourist services and Accra was a busy fishing port.

In his study Palczynski (2002), stated that solid waste management by local authorities in most countries was characterised by inefficient collection methods, insufficient coverage of the collection system and improper disposal of municipal wastes and this was generic to all African countries and thus the need to engage the private sector became imperative. The study further revealed that no country had specific waste management legislation, although legislation was being drafted in some countries. Usually, integrated waste management was not implemented and very little information was available on composting, controlled sanitary landfills and the recovery of the landfill gas. The current lack of regulatory initiatives to manage waste minimisation was of great concern as well as the potential for reducing the hazardous waste problem. In addition, no difference was made in the collection of different types of waste, although some municipalities had implemented higher taxes for commercial waste. The informal sector represented a significant part of the economy, and waste recuperation and recycling was an important economic activity. The common trend was that funding for waste management was always inadequate and real costs were never fully recovered. Two key alternatives of waste management which were currently favoured are decentralised approaches and privatisation (ibid).

Privatisation, in particular, was considered a viable option, however, privatisation proposals were in many cases hurried, ill-thought-out and often based on developed country models which assumed a totally different technical, financial and organisational framework, particularly with regard to the primary collection (ibid, Salimu, 2012: 78).

The researcher looked at the waste management practices in the major municipalities and did not assess the effectiveness of private companies involved in garbage collection.

1.7.10 Tanzania (Dar-es-salaam)

Kaseva and Mbuligwe (2003) undertook a study to appraise solid waste collection in Dar es Salaam city following the private sector involvement. The study assessed post-privatisation of solid waste collection. In Dar es Salaam, private sector engagement in waste management came to effect through a By-law adopted in 1993. The By-law was enacted to enable the privatisation of solid waste collection in some central areas of Dar-es-salaam. Beginning 1994, solid waste collection services were privatised starting with a five-year contract covering eleven wards in Ilala municipality (ibid). The contracted company, Multi-net Africa Limited operated on a commercial basis and collected refuse collection charges (RCC's) on an annual or quarterly basis while hiring a part of the Dar-es-salaam City Council fleet and depot for maintenance. Privatisation had gradually been extended citywide. The privatisation of solid waste collection in the city laid the basis for employment creation and income generation through the solid waste collection, disposal and recycling and by that contributing to poverty reduction and urban environmental upkeep. Kaseva and Mbuligwe's study focused on the evaluation of the private solid waste collection contractors in Dar es Salaam city. The study dwelt on determining whether or not there was an improvement in solid waste collection services following the decision to involve Solid Waste Collection Private Contractors (SWCPC); and if there was, to what extent. His key findings were that analysis of the performance of private companies showed that productivity of a particular vehicle type varied from company to company. This depended on how the companies organised their operations to utilise the vehicles in terms of the number of trips made in a day and the load. This study indicated that out of the total waste generated, a total of 957 tons/day was collected by the three city municipalities (231 tons/ day or equivalent to 10% of the total generation), private solid waste collection contractors (592 tons/day or equivalent of 24.4%) and through recycling (134 tons/day or equivalent of 5.5%). These findings suggested that as

a result of privatisation of solid waste collection activities in Dar-es-salaam city, the solid waste collection had improved from 10 per cent to 40 per cent of the total waste generated in the city daily in 2001. The study recommended that waste recycling and composting activities be encouraged since this approach was considered to be the right measure in attaining sustainability in waste management.

One lesson drawn from the study is that the performance of private companies productivity varied from company to company and largely depended on vehicle type and how the companies organised their operations to utilise the vehicles in terms of the number of trips made per day. The researchers did not focus on analysing effectiveness in terms of the policy guidelines and processes involved in garbage collection.

The review of the literature from outside Zambia has not shown the extent of effectiveness of garbage collection done by private companies. A study carried out by Coad (2005) mainly focused on the preparatory work that was necessary before any official documents were prepared as this was important in developing an appropriate strategy for private sector participation. Reviewed literature also showed that in some countries garbage collection were privatised and this was stressed by Kaseva and Mbuligwe (2003). Therefore a conclusion can be drawn that there was need to institute a study which could focus on the effectiveness of garbage collection by private companies through analysing the specific objectives of the study. This knowledge gap was filled by this study.

1.8 Scope of the Research

In its pursuit to provide adequate garbage collection services in low, medium and high-density area, the Central Government, local authorities and stakeholders are faced with the problem of how to meet demand and improve service delivery. With rapid urbanisation taking place, more people being attracted to live in urban areas will remain without access to services such as garbage collection. The assumption of the study is to provide evidence on the inadequacy of the central government to provide garbage collection services in the middle and low-income areas of Lusaka and thereby involving the private sector. Therefore, the preference of the study is the fact that, the existing literature has not written much about performance of private companies providing garbage collection in the four waste management district zones where the study is undertaken. The field of Public–Private Partnerships in garbage collection is chosen because it is a new phenomenon in Public

management. The phenomenon was recently introduced to the Zambian public administration in infrastructure and service delivery sectors. The available literature regarding Public-Private partnership evaluates the effectiveness in infrastructure. The researcher, therefore, sought to find out the effectiveness and improvement which has been brought about by engaging the private companies in garbage collection and whether the current policies and legislation are enabling them to compete fairly and maximise profits in the Zambian liberalised economy. The researcher was also inquisitive to discover why garbage is always visibly seen, be it in low-density areas, medium density areas and mostly in high-density areas despite the enacting of legislation by the central government and also the involvement of the private companies.

The research was undertaken in the four specific Waste Management Districts where the private companies are providing garbage collection services. Lusaka was chosen out of the 107 districts in Zambia because it has, unlike other districts adopted a mixed method of garbage collection and the researcher being a resident of one of the waste management districts where garbage is visibly seen on a day to day basis wanted to find out how effective the private companies are in the garbage collection service.

Public-Private Partnership is chosen in order for the researcher to gain an understanding of how the private companies are operating in garbage collection in the selected Waste Management Districts. The companies invest in a business that they consider economically viable as they only operate in planned residential areas leaving out the informal and unplanned settlements. The researcher was interested in the effectiveness of the private companies in the specific areas.

1.9 Rationale of the Research

Justification for this study could be attributed to the fact that private companies involved in garbage collection were perceived to be more effective than the government although the garbage situation in the country had not improved.

Public-Private Partnerships have the advantage of leveraging additional private resources to address qualitative and quantitative service shortfalls. From the private sector, the PPP's draw on the advantage of innovation, access to finance, knowledge of technology and managerial

efficiency, while the public sector provides social responsibility, environmental awareness and local knowledge which are cardinal in solving problems in urban areas (Bennet, 1989).

It was imperative to study and establish the factors associated with the process of garbage collection by PPP's in order to establish the reasons behind the current garbage situation and establish the levels of their operation. The findings of this study will be useful to the Ministry of Local Government and Housing, public and private institutions involved in garbage collection, local councils, and community-based enterprises (CBEs), students of public administration and public policymakers.

1.10 METHODOLOGY

1.10.1 Research Design

This was a mixed methods research study that used both qualitative and quantitative methods to gather data from sampled private companies dealing in garbage collection in Lusaka. Cresswell (2009) describes a mixed methods research as an approach to inquiry that combines or associates both qualitative and quantitative forms. The study allowed for an in-depth investigation in the process of garbage collection that had a direct impact on the performance of private companies in terms of effectiveness and efficiency in various zones. It also found out factors which could improve the performance of the companies. The study of the five districts was both quantitative and qualitative (Tavakoli, 2012: 503) defines qualitative research as a research methodology that places primary importance on studying small samples of purposely chosen individuals, not attempting to control contextual factors but rather seeking, through a variety of methods to understand things from the informants' points of view; and creating a rich in-depth picture of the phenomenon under investigation. The ultimate goal of qualitative research is to discover phenomena such as patterns of behaviour not previously described and to understand them from the perspective of participants in the activity (Tavakoli, 2012:503). Quantitative research is a research methodology that stresses the importance of large groups of randomly selected participants, manipulating variables within the participants' immediate environment and determining whether there is a relationship between the manipulated (independent) variables and some characteristics or behaviour of the participants (the dependent variable). The researcher combined the two methods in order to collect both numeric information and text from face to

face interviews in order not to replace qualitative or quantitative approaches but rather to combine them and utilise the strength of each study.

1.10.2 Targeted Population

The target population comprised of officials from the Ministry of Local Government and Housing, the Lusaka City Council (Waste Management Unit), three waste collecting private companies and members of the public from selected households in four Waste Management Districts within Lusaka namely; District E (Northmead, Rhodes Park and Longacres), District B (Emmasdale), District H (Handsworth, Ibex Hill, Kabulonga, Sunningdale, Brentwood, Salama Park and University of Zambia) and District C (Roma, Jesmondine, Kalundu, Olympia and Olympia Extension).

1.10.3 Sample Size

The study used a sample of 200 respondents. The sample was divided as follows; 181 respondents were sampled from 12 low and medium density population residential areas of Lusaka. All the areas were categorised on the basis of the Waste Management Districts where formal private companies collect garbage. Therefore, the research selected Chudleigh, Kalundu, and Olympia representing District C, Longarces, Northmead and Rhodespark represented District E, Emmasdale representing District B and Handsworth, Ibexhill, Kabulonga, Sunningdale, Helen Kaunda represented District H. The researcher also interviewed nine key informants from relevant institutions such as the Ministry of Local Government and Housing, the Lusaka City Council and three waste collecting Private Companies of solid waste management operating in the residential areas aforementioned. The three private companies were Clean Fast Limited, Catrone Enterprises and CitiMop. This brought the total sample to 200 respondents. The researcher ensured and took into consideration the demographics of the sample.

The Managing Directors, Operations Manager and Accounts were purposively selected from the three Private Waste Collecting Companies. The total clientele serviced by the three companies in the Waste Management Districts was 8,240. 45 households were randomly selected for three of the districts while one district (H) had 46 households.

Purposive sampling was used to select key informants. Tavakoli (2012: 499-500) defines Purposive sampling as a type of non- probability sampling and a feature of qualitative

research which researchers handpick the cases to be included in the sample on the basis of their judgement of their typicality. The researcher uses their judgement to select a sample that they believe, based on prior information will provide the data they need.

Simple random sampling was used for selecting members of the public. Simple random sampling is a type of probability sampling in which each member of the population under study has an equal chance of being selected and the probability of a member of the population being selected is unaffected by the selection of members of the population that is, selection is entirely independent of the next, Takavoli (2012: 591)

1.10.4 Sampling Procedure

The study sample was selected using purposive sampling and systematic sampling. The households were selected using systematic sampling. The researcher went into each of the four waste management district target areas (District B, C, E and H) and purposively selected a household after which the direction to go was chosen. After that, the researcher selected the number five as an interval of sampling. Therefore, every fifth household was interviewed.

1.10.5 Data Collection

In order to analyse how well acquainted the citizenry in the Waste Management District were on the discussed policies and regulations, the researcher structured two sets of questionnaires, the actual questionnaire for members of the public and an interview guide for key informants from the Ministry of Local Government and Housing, the Lusaka City Council and the management from three private companies covering the four zones.

Primary data was collected from key informants using interview guides and questionnaires were used for members of the households. Secondary data was collected through desk research from literature available in libraries, the Lusaka City Council (Waste Management Unit), the Ministry of Local Government and Housing and the Central Statistics Office, among other sources.

1.10.6 Data Analysis

Quantitative data was processed using SPSS. Qualitative data was analysed through context analysis which is the procedure used to convert written or spoken information into data that can be analysed and interpreted, (Tavakoli, 2012: 101).

1.10.7 The rate of response and summary of respondents is as tabulated below.

The researcher did not manage to get responses from all the targeted key informants and respondents. The response rates are shown in table 1.1

Table 1.1: Response rates from key informants

| S/N | Target group | No. of interview schedules distributed | No. of interview schedules returned to the researcher | No. of interview schedules not returned to the researcher | % of response |
|-----|--|--|---|---|---------------|
| 1 | The Ministry of Local Government Officials <ul style="list-style-type: none"> • Director • Assistant Director • Principal Waste Management Officer • Senior Waste Management Officer. | Four | Zero | Four | 0% |
| 2 | The Lusaka City Council Staff <ul style="list-style-type: none"> • Group Accountant • Cleansing Superintendent • Health Inspector (Inspectorate) • Community Waste Management Official • Head of Waste Management • Assistant Director Public Health | Six | Six | Zero | 100% |
| 3 | Private Companies' officials <ul style="list-style-type: none"> • Managing Directors • Operations Managers • Accountants | Nine | Four | Five | 44% |
| | Total | 19 | 10 | 9 | 52.6% |

As shown in table 1.1, the response rate for key informants was above 50%. This means that the collected data are generalisable and is acceptable in social science surveys.

Table 1.2: Response rate for members of the public

| S/N | Target group | No. of questionnaires distributed | No. of questionnaires returned to the researcher | No. of questionnaires not returned to the researcher | % of response |
|-------|---|-----------------------------------|--|--|---------------|
| 1 | Members of the public (households) in four waste management districts | 181 | 90 | 91 | 50% |
| Total | | 181 | 90 | 91 | 49.7% |

Table 1.2 shows that the response rate for questionnaires that were administered to members of the public was almost 50%. This response rate is quiet acceptable in social science surveys. Therefore the collected data are generalisable.

1.11 Limitations

The findings could not be generalised to all the zones where garbage is collected by private companies.

The Waste Management Districts which were sampled were mostly in medium and low-density areas and as such heads of the households or any member of the home who had information on the processes of the waste collection were not available during the daytime as they were either at work or at school. Therefore, the questionnaires were left with the gardeners and an appointed date of collection was given. It was difficult to collect the answered questionnaires as the respondents did not respond. Additionally, the key informants from the Ministry of Local Government and Housing were not available in the offices and, therefore, some questionnaires were not responded to.

1.12 Objectivity, Reliability and Validity

To ensure reliability, the respondents were allowed to fill in their questionnaires without inference and those interviewed were allowed to adequately express their views. The

researcher further used member checking to determine the accuracy of the qualitative finding through conducting follow up interview with key informants. Additionally the researcher took enough time to work on the study area in order to present current and valid findings.

1.13 Layout of the Dissertation

In order to adequately address the subject under consideration, the dissertation is divided into six distinct related chapters.

- Chapter one is the introduction and it highlights the background information on the subject, outlines the main and specific objectives of the study and highlights the literature reviewed for the topic under study. It also provides the methodology and conceptual framework and provides the limitations of the study.
- Chapter two highlights the socio-economic background of Lusaka and discusses the processes involved in garbage collection.
- Chapter three outlines the policy guidelines related to the private companies involved in garbage collection.
- Chapter four presents the process of managing garbage in Lusaka.
- Chapter five presents the effectiveness of private companies in the collection of garbage.
- Chapter six presents the summary of conclusions and recommendations

CHAPTER TWO: SOCIO-ECONOMIC PROFILE OF LUSAKA CITY AND OVERVIEW OF LUSAKA CITY COUNCIL

2.1 Introduction

This chapter discusses the history and socio-economic profile of Lusaka. The first section presents its historical development and geographic analysis. The second section examines the demographic profile of the selected areas. A general discussion on sub – city divisions and tribal groupings, the economy, water and sanitation, roads and transport and electrical power and communication is provided. An overview of Lusaka City Council is also outlined. The third section defines solid waste management and also discusses the four modes of solid waste collection and the stakeholders involved in the provision of the service.

Lusaka is the capital city of Zambia and was established as a settlement in 1913. Lusaka was the site of a relatively sizable village for the soli people named after its headman Lusaaka, which, according to history , was located at Manda Hill, near where the Zambia’s National Assembly building now stands, (Lusaka Times: 2013). The soli village was discovered in the early 1960s during the construction of the National Assembly building and the residential houses in Olypmia Park. In 1935, due to its fairly central location, its situation on the railway and at the crossroads of the Great North Road and the Great East Road, it was chosen to replace Livingstone as the capital of the British colony Northern Rhodesia (ibid). It dominates the country’s urban system and accounts for 32 per cent of the total urban population in the country. The city of Lusaka is 1 280 meters above sea level. The city covers an area of 375 km of mostly flat relief (UN-HABITAT, 2007: 6). Lusaka’s central location, in addition to its capital city status, gives it strategic importance, as it is easily accessible from all parts of the country. It shares its boundaries with Central Province in the North, Southern Province in the South and Eastern Province in the east. With regard to administration, the province is divided into eight districts namely; Chongwe, Kafue, Luangwa and Lusaka; the latest inclusions being Sibuyunji, Rufunsa, Chilanga and Chirundu. Lusaka District is the second largest economic centre in Zambia after Kitwe District and is notable for its sustainable diversification in the production of goods and services (UN-HABITAT, 2007: 12). With respect to Central and Southern Province, Lusaka is economically very significant since it provides the market for absorption of agricultural products from these areas. As the capital city of Zambia, Lusaka provides services including administrative functions to Zambia as a

whole. A number of social amenities are found in Lusaka including the University of Zambia (UNZA), the University Teaching Hospital (UTH), the National Assembly, the Supreme Court and the Natural Resources Development College (NRDC). The city is one of the entry points for foreign tourists destined for Zambia's countryside. Kenneth Kaunda International Airport is connected to tourist centres such as Livingstone, Mfuwe and the entire provincial and district centres.

2.2 Socio-Economic Profile of Lusaka City

2.2.1 Demography

According to the 2010 Census of Population and Housing Report, Lusaka city had the largest population at 1,747,152 out of 13,092,666 Zambians. It is the most urbanised city in the country. The population density in Lusaka varies between 5 and 1,483 people per hectare, with an average density of 150 people per hectare. The annual population growth rate in the city was 4 per cent in 1990-2000 periods, compared to 2.9 percent for Zambia as a whole (Central Statistics Office 1994-2001, 2012). The population of Lusaka city is diverse and consists of people from all ethnic groups found in Zambia, as well as a small proportion of people of European and Asian origin. In Lusaka, there is a direct link between income levels and population density; higher residential densities are located on the outskirts of the city and lower densities where most of the urban facilities are situated are located in the inner city.

2.2.2 Sub-city Divisions and Tribal Groupings

Lusaka City Council consists of seven constituencies (for parliamentary elections), and thirty-three wards (for local elections). The constituencies are Chawama, Kabwata, Kanyama, Lusaka Central, Mandevu, Matero and Munali. There are four wards in Chawama constituency namely; Nkoloma, Chawama, John Howard and Lilayi. Kabwata constituency comprises five wards namely; Kamwala, Kabwata, Libala, Chilenje and Kamulanga. The constituency with the least number of wards, three is Kanyama which comprises; Kanyama, Harry Mwaanga Nkumbula and Munkolo. Lusaka Central constituency comprises four wards namely; Silwizya, Independence, Lubwa and Kabulonga. Mandevu constituency has the highest number of wards, seven, namely; Roma, Mulungushi, Ngwerere, Chaisa, Justine Kabwe, Raphael Chota, and Mpulungu. Matero constituency has five wards namely; Muchinga, Kapwepwe, Lima, Mwembeshi and Matero. The last constituency is Munali with five wards namely; Chainda, Mtendere, Kalingalinga, Chakunkula and Munali. All tribes of

Zambia are found in Lusaka and Nyanja was the widely spoken language in the district (63.4%) (Central Statistical Office, 2012).

2.2.3 Economy

Lusaka District is the second largest economic centre in Zambia after Kitwe District and is notable for its sustainable diversification in the production of goods and services. With respect to the Central and Southern provinces, Lusaka is economically very significant since it provides the market for absorption of agricultural products from these areas. Manufacturing, financial, transport and retail businesses are the most important industries in Lusaka. The 2012 census by the Central Statistical Office revealed that Lusaka city recorded the highest labour force average annual growth rate of 5.9 per cent, while Luangwa District recorded a negative annual growth rate of -0.7 per cent. It is estimated that only 9 per cent of the city's population is engaged in formal employment (UN-HABITAT, 2007). A major reason for this is that the local economy has been drifting towards the private sector and self-employment since the liberalisation of the economy in the early 1990's (ibid). The financial and commercial sectors, on the other hand, are fairly large and account for most of the financial and commercial activities in the country, (Mulenga nd.). The majority of the city's labour force, therefore, earns its livelihood from informal economic activities, which predominately consist of unregistered and unregulated small-scale non-agricultural economic activities ranging from petty trading to metal fabrication and wood processing. The bulk of the informal economic activities is, however, essentially trading. As such the majority of the population in Lusaka city engage in self-employment (makeshift stores).

2.2.4 Water and Sanitation

Rapid population growth has put enormous strain on the ability of local authorities and service providers to provide adequate water and basic sanitation facilities. Within the Zambia National Decentralisation policy, water and sanitation along with solid waste management and environmental services are devolved to local authorities including city councils. The provision of water services for Lusaka is the responsibility of the Lusaka City Council (LCC) through the Lusaka Water and Sewerage Company (LWSC). The LWSC was established in 1988 about 10 years before the present formation of commercial utilities which provide water and sewerage services throughout Zambia. LWSC leased assets from the municipality of Lusaka city. In 2002, LWSC was transformed into a Commercial Utility (CU) as assets were

transferred to the utility company. The LCC is the sole shareholder of the company. The company has been charged with refurbishment and expansion of services in Lusaka as well as smaller municipalities within Lusaka Province. The LWSC provides potable water and sewerage services to the metropolitan areas of Lusaka. Currently, only 30 per cent of housing in the LWSC water supplied areas are connected to the public sewerage system (Engineering and Consulting Firms Association 2006),

Lusaka city relies on both surface water and groundwater as sources of raw water. The average daily water production of approximately 200 million litres is supplied from two sources; 50 per cent from surface water of the Kafue River (50 kilometres away) and 50 per cent from boreholes (about 50 wells) in and around Lusaka city area. (Ibid), In recent years, LWSC has created a Peri-urban Department and has been working to find ways of linking community-based water and sanitation schemes into its current operations. Community structures such as water trusts, water committees, ward development committees and neighbourhood health committees exist, but further support is needed to ensure that these bodies coordinate their activities and to ensure local communities have a real voice in decision-making. In most settlements, LWSC provides water via the central water distribution system to the perimeter of the supply area. Thereafter, the Resident Development Committees undertake the distribution of water with water committees and some logistical support from LSWC. However, the water supplied via the central distribution system and from local borehole systems is inadequate and the supply is erratic (ibid).

Water from local boreholes is usually untreated and can be contaminated. Hand dug wells are mainly located in settlements with shallow water tables and this source can dry up. In general, the supply of safe water in most unplanned settlements is understood to be deficient. The figure for unaccounted water in the LWSC system meanwhile stands at an unacceptable 56 percent of the total water delivered to the system (UN-Habitat, 2007).

2.2.5 Roads and Transport

Lusaka is fortunate in this field by virtue of its central geographical position in relation to the country plan of the transportation system. The geographical, commercial and governance centrality of Lusaka's position has made the city a major destination for meeting. Lusaka has developed intra-city road network, which connects the residential, industrial and active agricultural areas to the Central Business District. The public transport system in Lusaka

comprises mainly minibuses and taxis. The main weaknesses in the system are the lack of coordination, the limited service provided by a radial road network structure and low efficiency of bus operations. Most road designs did not provide for non-motorised modes of transport and there is now over-dependence on minibuses. The present radial network structure results in nearly all routes ending in the town centre. This has led to problems such as heavy congestion in the Central Business District (CBD) bus stations and limited and inefficient township to township journeys – most have to go through the City Centre due to lack of bypass routes. Without bypass routes all the main roads passing through the CBD will continue to be overloaded; it is estimated that, at least, ten vehicles are added to the streets of Lusaka every day. Zambia Railways offers passenger and goods trains providing network in various directions every day. The railway network through Lusaka goes to Zimbabwe, South Africa, the Democratic Republic of Congo and Tanzania. Lusaka's international airport located 22.5 km east of Lusaka handles both local and international flights. Currently, the city does not have a local airline; the air transport is run by the private sector.

2.2.6 Electrical Power and Communication

Zambia Electricity Supply Company is the bulk electricity supplier/distributor of electricity in Lusaka. Its power is sourced from the Kariba North Bank and the Kafue Gorge hydro-electric power stations. ZESCO is responsible for the distribution of electricity to various substations in the greater part of Lusaka area.

In terms of communication, Lusaka city has in the recent past had various telecommunication service providers in the city. Among them are three cellular phone service providers, namely; Zambia Telecommunication Company (Zamtel), MTN and Airtel. Besides provisions of cellular services, Zamtel is a multi-telecommunication service provider dealing also in fixed-line telephone, internet services and leased lines. Other internet service providers besides Zamtel include ZAMNET Communication Systems, Coppernet Solutions, Microlink Technologies and UUNET.

2.3 Overview of the Lusaka City Council

2.3.1 Administration

Lusaka is the seat of government and home to all foreign missions in the country. There are seven elected members of parliament in each constituency and thirty-three elected councillors

in each ward. Councillors are elected every five years to run the affairs of the city through the Lusaka City Council, or on behalf of the residents of the city. Like all councillors in Zambia, the Lusaka city councillors are part-time officials. Full-time employees of the council are headed by the Town Clerk who assists them with the daily management of the affairs of the city. Operationally, the council is a corporate body and is expected to manage the affairs of the city. The council offices are located at the Lusaka Civic Centre, situated in the Central Business District along the Independence Avenue. The mission statement of the Lusaka City Council is 'to provide high-quality services, an enabling environment, meaningful employment and advancement opportunities with stakeholder participation in order to improve the quality of life for all those who live, work, visit or conduct business in the city of Lusaka'. Independently, it merely operates as an agent of the Central Government, which has delegated functions relating to the provision of services to the residents of the city under the Local Government Act CAP, 281.

The 1991 Local Government Act and the Local Government Elections Act along with the relevant amendments, provide the institutional framework for the local authority's administration of Lusaka and for holding of local elections. The executive structure of the Lusaka City Council comprises eight departments namely; City Planning, Public Health and Social Services, Legal Services, Administration, Finance, Engineering and Valuation and Real Estate Management. Engineering is one department, Valuation and Real Estate Management is another. The Town Clerk who is the principal officer heads the executive structure.

Local government means representative local authorities perform functions and provides services that have been transferred from the Central Government by law. The functions of the council are contained in the second schedule of the Local Government Act. Responsibilities of local authorities were divided into nine broad categories comprising; general administration, advertisement, agriculture, community development, public amenities, education, public health, public order and, sanitation and drainage. The executive is responsible for implementing council resolutions and for day to day functions of the council. (Loloji, 2001). However, these functions are largely discretionary and not mandatory. As a matter of policy, the Lusaka City Council has entered into a partnership with the Community-Based Organisations (CBO's) like Resident Development Committees (RDC's) to identify service needs (especially in the peri-urban areas of the city) and Non-governmental

Organisations (NGO's) to implement community-based programmes. International NGO's also do supplement the local authority's efforts in the development of the city. The Lusaka District Development Coordinating Committee is the forum where the council collaborates with local stakeholders on development issues and programmes. Its membership comprises representatives of the council, government departments that operate in the city, NGO's, CBO's and other stakeholders in the development of the city.

2.4 Overview of Waste Management in Lusaka

2.4.1 Solid Waste Collection Processes

The International Labour Organisation technical handout (2011) spells out that there are three ways to collect waste and these are:

- Street sweeping;
- Collection of stored waste; and
- Collection of waste dumped at unregulated places or clearing of the backlog.

Kwarteng (2011) states that there are four modes of solid waste collection service depending on the income levels of the people, housing types and level of service.

The first one is the communal collection mode which is rendered in low-income areas. The householders discharge their waste into communal storage containers at transfer stations or designated locations and collection vehicles pick up the containers full of waste at intervals. (Kwateng, 2011). The second is block collection mode. This method is used where there are large apartment residential buildings. For this service, collection vehicles travel along predetermined routes at specific intervals (every 2 to 3 days) and stop at selected locations. Every household brings their waste bins upon hearing a bell sound and the waste is handed to the waste collection crew who empty the bins and give them back to the householders. Third, the kerbside collection mode is rendered in middle and high-income areas. The collection crew collects bins and bags of waste which are deposited at the kerbside on fixed days (e.g. 2 specific days a week) when collection takes place. The householders leave their bins at the kerbside and collect them later in the day. Finally, the door to door or house to house collection mode is rendered in middle and high-income areas in Zambia included. The collection crew enters each premise, takes out the bin and sends it back after emptying the waste into the collection vehicles. No bins are left outside the household premises (ibid).

2.4.2 Stakeholders Involved in Solid Waste Collection

A solid waste management system consists of three main stakeholders: the providers, including the local authority who actually offer the service; the users, who are the clients and the external agents in the enabling environment, including both national and local government, who organise the boundary conditions and make change possible (UN-HABITAT, 2010).

2.4.3 Local Authority

The local authority has a central role in the setup and operation of waste management systems. They provide the legislative framework for regulating waste management elements including laws, strategies and guidelines. Public awareness, coordination and support of development initiatives and general representation of public needs are important roles of the local authority. It is also the responsibility of the local authority to find a disposal site because of the long duration of the process and the coordination with other governmental bodies for the necessary planning and environmental permission. United Nations Environmental Programme (2005) states that the relationship between the local government and the private sector contractor should be a partnership of mutual appreciation and respect for the conditions and the spirit of the contract. In Europe, most of the collection is performed by government employees contrary to the prevailing situation in Lusaka where the local authority has designated areas where it collects waste and collection of waste in other parts of the city has been outsourced to private waste collecting companies.

2.4.4 Private Sector Service Provider

According to Palczynski (2002), the private sector has much to offer in the waste industry since it has many advantages over the local and provincial authorities namely;

- Flexibility in areas of operation;
- Flexibility in choice and range of equipment;
- Flexibility in pay packages and the ability to attract the best-qualified staff;
- Ability to raise capital;
- Ability to reward employees;
- Economies of scale; and
- General ability to operate more efficiently.

Palczynski (2002) further states that the private sector can be constrained by a number of issues which among other things include; By-laws restricting certain categories of work for exclusively the local authorities, poor legislation and lack of consistent enforcement of legislation.

This has a bearing on the enthusiasm of the private sector to invest because they find themselves competing with illegal collectors due to inconsistent enforcement of legislation.

2.4.5 Users or Waste Generators

Krogstrup *et al.*, (2003), argue that the users of a waste management system can be characterised as:

- Defined by sharing the same administrative area for waste management services.
- A large heterogeneous group with diverse backgrounds and thus varying consumption and waste generation habits.
- Motivated primarily by health and cleanliness related aspects, security, efficiency and reliability, comfort and convenience, service and price.

International Labour Organisation (ILO) (2001) describes processes involved in waste disposal as the final storage of waste. If properly done, the waste would be disposed of at a site specially prepared for that purpose or alternatively, its final treatment. This could be permanent for destruction or decomposition. However, there are waste disposal methods that are not acceptable and have a negative effect on the environment and possible danger to people. Among the unacceptable methods are:

- Crude dumping which involves throwing waste at any site without taking precautions for the environment. The end result would be health dangers, soil, air and water pollution;
- Burning of waste without a special oven which creates air pollution and the risk of fires breaking out or explosions taking; and
- Burying of waste which can cause soil and water pollution. Also, in the buried waste, gases might be formed and can contaminate the air or burst into flames (International Labour Organisation Technical Handout, 2001:53).

2.5 Conclusion

It has been noted that the socio-economic significance of Lusaka city as a whole is very important as it houses the key institutions such as the Cabinet Office, the National Assembly, the University of Zambia and the University Teaching Hospital. It is the most urbanised district with the highest population in the country. The district comprises seven constituencies and thirty-three wards. The Lusaka City Council is responsible for local service provision and its administration consists of eight departments with several sections.

Migration trends in Zambia have led to high population growth in Lusaka urban and this is without accompanying improvement in infrastructure for service provision such as waste management. This has resulted in the Lusaka City Council partnering with private companies to provide garbage collection services to the general public.

There are three processes in solid waste collection and these are; street sweeping, collection of stored waste and collection of waste dumped at unregulated places or clearing of the backlog. The local authority, the private companies and the users are the main stakeholders in the garbage collection sector and each has a role to play.

The next chapter outlines the policy guidelines/legislation for the operation of private companies in waste management. It will outline the various By-laws which are enacted by the Central Government through parliament and it will also describe the service contract agreement.

CHAPTER THREE: GUIDELINES GOVERNING WASTE COLLECTION IN LUSAKA

3.1 Introduction

The Chapter outlines the existing policy guidelines governing garbage collection in Zambia and Lusaka in particular. These are most relevant to the specific objective of the study which is to outline the policy guidelines related to the operations of private companies in waste collection. The first section will discuss solid waste disposal in Lusaka.

3.2 Solid Waste Disposal

Throughout the years, waste management in Lusaka has been totally inadequate for a large city. Due to lack of funding and no sustainable waste management system, the Public Health Department of the Lusaka City Council (LCC) only services the Central Business District (CBD), hospitals, markets and governmental and commercial institutions. In Lusaka, only an estimated 15 per cent of the municipal solid waste generated is collected, resulting in a build-up of waste in the open spaces along the streets around the city.

Lusaka city is experiencing typical urban problems associated with developments such as population growth, high levels of urbanisation and unemployment, a lack of service and inadequate waste management (UN-HABITAT, 2007). The LCC implemented a new waste management system that involves waste collection and disposal at the Chunga Landfill in order to ensure that the city's inhabitants have access to affordable and efficient waste management services. The system was developed in 2003 and is being implemented by the Waste Management Unit of the council, in partnership with the private sector. The Lusaka City Council works with the private sector at two levels; the franchise contractors providing services to conventional housing areas, and Community-Based Enterprises (CBE's) in peri-urban areas. Each private company collects waste in a part of the city and is responsible for collection fees. This system has been recognised by the Ministry of Local Government and Housing through the enactment of the Local Government (Solid Waste Management) Regulations, Statutory Instrument No. 100 of 2011.

The policy guidelines that enable the operations of private companies in garbage collection are discussed in two parts. To begin with, the environmental protection and service standards are outlined, and then the enforcing of the Franchise Service Agreements is also discussed.

3.3 The Policy Guidelines Related to the Operations of Private Companies in Waste Collection

3.3.1 Overview

In order to monitor and control the operations of the private companies collecting waste in the waste management districts, Parliament enacted Acts and legislation in the form of By-laws which are divided into three major areas; environmental protection, service standards and enforcing agreements (Franchise Service Agreement). The main legislation concerned with aspects of environmental protection and service standards are; The Lusaka City Council (Municipal Solid Waste Management) By-laws of 2004, the Local Government (Solid Waste Management), Regulations of 2011, Environmental Protection and Pollution Control Act of 1990 (EPPCA), the Environmental Management Act of 2011 and the Public Health Act Cap 2295. The enforcing agreements are provided for in the Collection and Transportation of Solid Waste Franchise Service Agreement.

3.3.2 Environmental Protection and Service Standards

Environmental aspects of the waste collection are largely confined to preventing unloading of waste at unauthorised locations and the burning of the waste, (Coad, 2003). With regard to the service standards, the Lusaka City Council authorities have the responsibility of ensuring that the private companies collecting garbage provide clients in need of waste management a service of a good standard. The services provided are to be described in clear and quantitative terms and sanctions are to be applied if the service does not meet the prescribed standards. The enactment of legislation controls illegal dumping and curbs against unregistered private waste collectors as licences are required for all private companies collecting waste. Therefore, the Lusaka City Council (LCC) enacted the LCC (Municipal Solid Waste Management) By-laws of 2004; Statutory Instrument No. 91 of 2004 and The Local Government (Solid Waste Management) Regulations of 2011; Statutory Instrument No. 100 of 2011. The documents have a number of clauses which are similar and, therefore, only the latter document will be outlined.

3.3.3 The Local Government (Solid Waste Management) Regulations of 2011- Statutory Instrument No. 100 of 2011

The Statutory Instrument No. 100 of 2011 has four parts. The first part discusses the Preliminary, Waste Management is covered in Part II and finally, the General Provisions are in Part III.

Under these By-laws, the responsibilities of the Council are to:

- Monitor service delivery by waste managers;
- Set minimum standards for levels of service;
- Designate waste disposal facilities in accordance with the Environmental Management Act of 2011;
- Operate waste disposal facilities in compliance with the Environmental Management Act of 2011;
- Monitor the management and use of waste disposal facilities; and
- Ensure compliance with these regulations by waste producers and waste managers within the area. Statutory Instrument No. 100 of 2011; The Local Government Act, Laws, Volume 16, Cap 281; Part II; 5 (a) - (f). (Government Printers, 2011)

Other clauses covered are applicability of the By-laws, the establishment of the Waste Management Unit, the appointment of inspectors, fees to be paid, use of waste bin or receptacle, duties of waste producers and managers, exemptions and finally, offences and penalties. These By-laws apply to the management of municipal solid waste generated in, imported into or transferred through the City of Lusaka and other waste which is managed together with or in the same facility as the municipal solid waste. Additionally, the provisions of these By-laws bound all waste producers, waste managers, collectors, transporters and recyclers residing or conducting business in the city of Lusaka. Under these By-laws, the Waste Management Unit of the Council is established to be responsible for, and coordinate activities related to, municipal solid waste management within the area of the council. The unit is mandated to:

- On behalf of the Council, appoint waste managers, through the use of appropriate procurement procedures, on a competitive basis, in accordance with the Public Procurement Act of 2008;

- Advise the council in relation to the preparation and conclusion of the municipal solid waste management contract with any person;
- Publish in the Government Gazette and in a daily newspaper in circulation in Lusaka for three consecutive days, the fees which are to be charged by waste managers as solid waste fees;
- Undertake inspections of waste management districts and waste management zones in which waste managers have been appointed;
- Operate, in accordance with requirements of a permit issued by the Zambia Environmental Management Agency, such solid waste disposal facilities as the council determines; and
- Collect fees from persons who dispose of solid waste at the facilities (Local Government Act, 2011).

The Waste Management Unit is given the authority to engage waste managers in the Waste Management Districts (WMD's) for the purpose of performing its functions under these regulations.

Included in the By-law is the appointment of inspectors who are issued with identity cards by the Town Clerk. Their role is to monitor, inspect and enforce the provisions of these By-laws and ensure that the waste management provisions of the Franchise Service Agreement in accordance with a contract signed between the waste manager and the council are adequate. The inspector has the power to order any waste producer who piles waste in contravention of these By-laws to remove the waste at the waste producer's own expense to a waste disposal site within such period as may be specified. The council has the responsibility of charging fees for solid waste collection, transportation, disposal, street sweeping and storm drain clearance as it would determine. The council has the right to charge different collection fees for different WMD's. The Waste Management Unit is responsible for the collection of the fees from households at such pay points as the council has designated and an official receipt is to be issued.

Also stipulated in the By-laws are the duties of waste producers which among others include facilitation of the removal of solid waste from their premises by placing the waste bin or receptacle in a place near the entrance to the premises on the day that the waste manager has to collect waste. The contract between the waste producer and the waste manager of a

particular district has terms and conditions which are agreed upon and which include storage of waste before collection and provisions of bins or receptacles (ibid).

Waste Managers are expected to operate in accordance with a licence to transport waste issued by the Zambia Environmental Management Agency, and within the boundaries of the Waste Management District.

With regard to prohibitions, the Act stipulates that a person within the boundaries of a council will not be allowed to:

- Dispose of waste in an open space or another place not designated as a waste disposal facility;
- Dispose or burn waste in an open fire on any private or public land;
- Bury waste on private or public land;
- Accumulate or keep waste on any premises beyond the regular collection period stipulated by the waste manager concerned;
- Deposit or place waste in any street, stormwater drain, premises (whether vacant or not) watercourse, reservoir, forest or any place not intended for waste disposal as a means of permanently disposing of solid waste;
- Throw waste from a moving or stationery conveyance;
- For purposes of waste disposal, use any receptacles or other accessories other than those approved by the Council;
- Dig a pit for purposes of waste disposal;
- Loiter or scavenge at any waste disposal facility; or
- Provide waste management services without a license from the Zambia Environmental Management Agency and a Solid Waste Management Contract concluded with a council (Local Government Act , 2011).

The handling of complaints is also covered in this Act. In this regard, all complaints are to be lodged in with the head of the Waste Management Unit.

Contravention of these By-laws attracts the following penalties;

- *In case of a first offence, to a fine not exceeding eighty penalty units (ZMK 180 denoted 1 Unit) or imprisonment for a period not exceeding six months; or both; and*

- *In case of a second or subsequent offence, to a fine of sixteen penalty units for each day during which the contravention continues (ibid).*

In addition to any penalty prescribed, the court will order that any expenses incurred by the council in consequence of such contravention will be paid by the person committing contravention.

3.3.4 The Public Health Act Cap 295

The Public Health Act CAP 295 gives the council the responsibility to prevent and control the outbreak and spread of infectious diseases like Cholera. Therefore, under this Act, disposing of waste in such a way as to cause disease or hazard to health is an offence. The Lusaka City Council through the Public Health Department has the responsibility to ensure that citizens do not dump waste indiscriminately. The department is empowered to correct any action or omission that creates a nuisance. The Act is applicable to areas where the Lusaka City Council has jurisdiction to collect solid waste. The main sources of solid waste for which the Lusaka City Council collects waste are the City Centre and Industrial Area (shops, hotels, colleges, streets) and some residential premises (ILO, 2001: 19)

One of the weaknesses of this Act is that it does not provide for private operators involved in solid waste management. This is because the Act caters for areas where the Lusaka City Council collects waste. However, it empowers the Council to take lawful, necessary, reasonable and practicable measures for maintaining its district or municipality. Whatever the council decides as reasonable measures to enhance Public Health applies and is included for in the law. Therefore, if the council decides to enter into contracts with private businesses for the collection and disposal of solid waste, this is possible under the Public Health Act.

3.3.5 The Environmental Protection and Pollution Control Act of 1990 (EPPCA)/ Environmental Management Act, 2011

This Act provides for general prohibitions and duty of care, waste licenses, and roles of local authorities in waste management and designation of waste control areas among others. The Environmental Council of Zambia (ECZ), which fell directly under the Ministry of Environment and Natural Resources, was formed under the repealed Environmental Protection and Pollution Control Act of 1990 and continues to exist as a body corporate under the Zambia Environmental Management Act of 2011 and is re-named as the Zambia

Environmental Management Agency (ZEMA). The Agency is responsible for the protection of the environment and control of pollution of water, air and land. It has the responsibility of providing specific and general direction to local authorities regarding their functions relating to the collection and disposal of waste operations.

Under this Act, a local authority is mandated to:

- i. Collect and dispose of or, arrange for the collection and disposal of, all household waste in accordance with the Act;
- ii. Ensure that waste is collected, transported and disposed of in accordance with the Act;
- iii. Ensure that waste management services are provided within its jurisdiction in a manner which prioritises the recovery, reuse or recycling of waste and provides for the treatment and safe disposal of waste;
- iv. Take all practical measures to promote and support the minimisation of waste and the recovery of waste, particularly at the point at which it is produced;
- v. Provide litter receptacles in public places;
- vi. Prepare and submit to the Agency for approval an integrated waste management plan that conformed to the requirement of the Agency, including any national waste management strategy published by the Agency (Environmental Management Act 2011).

A local authority is expected to report annually to the Agency, types of waste and quantity of each type of waste generated and disposed of within its area of jurisdiction and on the implementation of its integrated waste management plan. Standard treatments of hazardous wastes are expected to be met by a local authority under this Act. The Agency is responsible for approving locations to be used for waste disposal and issue a license to the local authority, in this case, Lusaka City Council, to allow them to dispose of waste in the location. It is mandated to conduct an Environmental Impact Assessment before a license is issued. The inspectors are empowered to monitor the safety and health of workers at disposal sites. The Agency issues licenses to any transporter of waste and provides technical advisory services to waste operators. It also gives guidance on the correct means of storage, collection and disposal of any class or type of waste (ibid).

3.3.6 Enforcing the Franchise Service Agreements

Private companies are engaged by the City Council through the issuance of a Franchise Service Agreement contract and they are expected to uphold the franchise conditions. The objective of the contract is to provide an effective Municipal Solid Waste Management (MSWM) service to the citizens of Lusaka in order to assist in:

- i. Eliminating unpermitted and indiscriminate disposal of waste including littering in Lusaka; and*
- ii. Protecting the environment and the city's resources (land, water and air) from the effects of improper disposal of wastes. (Lusaka City Council, nd) Article 1, (a) and (b).*

In its methodology, the Council through the Waste Management Unit (WMU) undertakes the task of providing the service through contracting out and franchising, using the resources of the private sector in the most efficient and effective manner to attain the above objectives. The WMU is instructed to provide the service incrementally so that the whole city of Lusaka is provided with a cost-effective service within a reasonably short space of time. It is also instructed to introduce a waste minimisation programme and action plan to reduce waste and conserve resources. This programme includes source separation of commercially valuable resources such as paper, cardboard, plastics, metals and compostable matter. The unit is further instructed to ensure safe sanitary operation of the council's disposal facilities, currently the landfill at Chunga. Hazardous wastes are not to be dealt with under the contract. (ibid). The general scope of work in providing the service is covered in the agreement under Article (1).

The contract comprises 24 Articles covering; startup, extensions, termination and disputes. Other articles include; the Councils undertakings, the contractor's undertakings and protection of the environment. Further, the charges/tariffs on generators, payments, bonds and insurance are covered under the contract. Contract administration, operational detail and monitoring of service and inspection are articles provided for in the contract. Laws and regulations, work time and holidays, employees and supervision are included. Other articles in the contract are communication, ownership, subcontractors, assignment and franchise fee. The last three articles in the contract are the disposal fee, bankruptcy and Force Majeure

(Lusaka City Council, Collection and Transportation of Solid Wastes; Franchise Service Agreement, Article [1] – [24]).

Under the contract, the franchise contractors pay annual franchise fees and disposal fees to the Council which are set at levels that allow for cross-subsidisation. In return, the franchise contractor is given the obligation to collect waste and the right to collect waste collection fees directly from waste generators. Most of the articles listed above are similar to those listed in the Coad and Cointreau-Levin (2000: 28) ‘Guidance Pack’ except for clauses such as “guarantee against political instability to be provided for the employer and financing”. In addition, other clauses such as requirements on the ownership of equipment and allowances for leasing equipment, the age of equipment to be used and allowances for recently refurbished equipment and allocation of risks and remedial measures found in the guide pack are not stated in the LCC franchise contract. The private companies operate in line with regulations provided for under Section 64 to 67 of the Public Health Act Cap. 295 and the Local Government (Solid Waste Management) Regulations, Statutory Instrument No. 100 of 2011 of the Laws of Zambia and the Environmental Management Act of 2011. The initial term of the contract for the contractor is seven years from the date of commencement of the contract and mobilisation of services by the contractor is carried out through the distribution of brochures and flyers by the contractor.

From the above-discussed legislation, private companies involved in the waste collection do not have the right to force residents to pay for the service. The enforcement of the By-laws to would-be perpetrators is solely in the hands of the local authorities through the WMU. According to Bushra (2000: 17), the local authorities usually fulfil their solid waste management responsibilities by establishing special purpose technical agencies and are authorised to contract private enterprises to provide solid waste management services and still retain the responsibility of regulating and controlling the activities and performances of these enterprises.

This is clearly the case for the Lusaka City Council Waste Management Unit as one of the obligations of the private company collecting waste under the Franchise Service Agreement Article (7) (h) and (j) is to report delinquent customers to the council in monthly/quarterly returns and on no account use any inappropriate or threatening behaviour to extract monthly fees/tariffs from customers. It, therefore, leads to the concern on what action the Council

takes against the delinquent customers because an analysis of the Local Government Act, Laws Volume 16, Cap. 281 reveals that the law does not provide for the penalty of failure to pay the monthly fees. The private companies collecting waste are primarily interested in earning a return on their investment by selling waste collection, transfer, treatment, recycling and disposal services. This is mainly because the private companies finance the procurement of their equipment and recovery of costs through the tariffs charged. Private companies collecting waste require support from the City Council. First, to convince the householders that the company has an official status and that they are entitled to collect a fee for the service rendered and secondly, to enforce the payment of fees. The policies and regulations are enacted as a measure to ensure that there is an efficient and effective waste management service in order to achieve a clean and quality environment in order to promote economic, social and cultural development with concerted efforts from the government, the general public and the private sector. However, the local authority observes that the current waste collection financing is not sustainable as not everybody is ready and willing to pay for their refuse. Therefore, the local authority is exploring ways of attaching waste collection fees to utilities such as water and electricity. It is expected that such a fee payment system will not only increase the number of people paying for their waste but contribute to the affordability of the services and result in cleaner environments. (Lusaka City Council article nd).

3.4 Conclusion

This chapter has outlined the policy guidelines related to the operations of private companies in waste collection. The study has shown that, there are very strong guidelines were enacted through parliament and create an enabling environment for private companies to provide garbage collection in the waste management district in Lusaka under this study. The policy guidelines give the Lusaka City Council the authority to monitor and regulate the private companies and the general public on good garbage collection practices to achieve a clean and healthy environment. Provided in the policy guidelines are the penalties for offenders. The chapter discussed the Franchise Agreement and the 24 articles contained in it.

Regardless of the above mentioned it seems as if very little is being done to ensure that the by-laws are enforced and this is evident by the visibly seen heaps of garbage in waste management districts serviced by the private companies.

The next chapter presents the findings of the study in line with the objectives of the study. It discusses the processes involved in the disposal of garbage by the private companies.

CHAPTER FOUR: PROCESSES INVOLVED IN THE DISPOSAL OF GARBAGE BY THE PRIVATE COMPANIES IN LUSAKA

4.1 Introduction

This chapter discusses the findings of the study in line with the objective regarding the processes involved in the disposal of garbage by the private companies in Lusaka. The chapter begins with providing the demographic characteristics of the key informants and thereafter, it describes how the private companies are brought on board in relation to the bidding process. It provides information on whether capacity assessments are carried out before the private company is engaged and also discuss contract prerequisites and other requirements. The inspection intervals will also be outlined.

In order to implement an effective waste collection service in the conventional housing and commercial areas, the Lusaka City Council established partnerships with private waste management companies. To facilitate their intervention, the city is divided into 12 Waste Management Districts which have been increased to sixteen and these are;

- A. Barleston, Matero, Lilanda
- B. Emmasdale
- C. Chudleigh, Kalundu, Olympia Park, Olympia Extension, Roma
- D. Kamwala, Commercial Area, Central Business District, Thorn Park, Villa Elizabetha
- E. Longacres, Northmead, Rhodes Park
- F. Chamba Valley, Chelstone, Chudleigh
- G. Avondale, Chainama, NRDC
- H. Handsworth, Ibex hill, Kabulonga, Sunningdale, Helen Kaunda
- I. Arakan, Kabwata, Kamwala, Libala, Madras, Ridgeway, UTH, Chilenje
- J. Nyumba Yanga, Statehouse, Woodlands, Woodlands Extension

K. Industrial Areas (light and heavy)

L. Barclay, Lilayi, Makeni. (State of the Environment Report: 2008)

The four additional waste management districts are;

M. Kamwala South, Part of Libala and Libala South

N. Chilenje, Chilenje South

O. Salama Park, parts of Ibex Hill

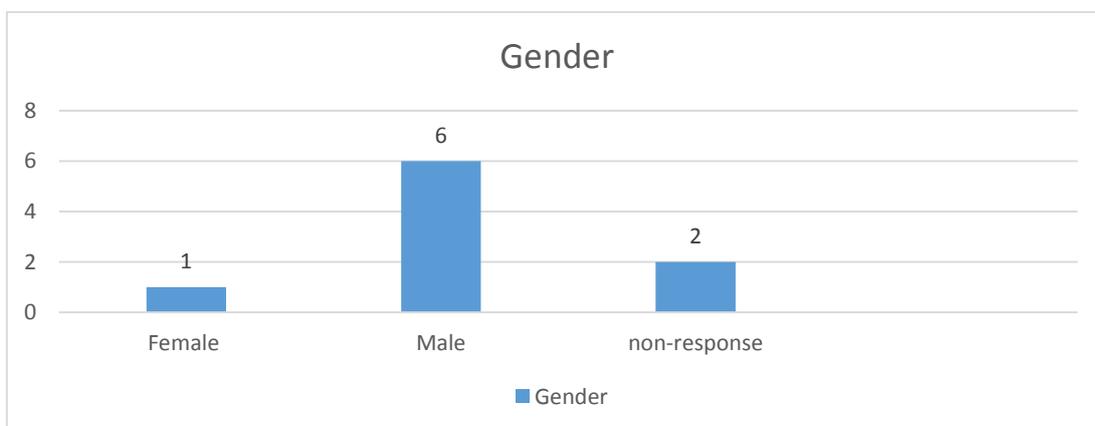
P. Areas north of Kafue Road, Lilayi, York Farm area. (LCC – Collection and Transportation of Solid Wastes. Franchise Service Agreement nd)

In all these districts, except one which includes the Central Business District (CBD), garbage collection is outsourced to the private waste management companies through franchise contracts. Reserving of the CBD is done in order to maintain capacity in the Waste Management Unit and to enable it to reach financial sustainability since it charges commercial fees in the above stated Waste Management Districts. In addition, part of the revenue generated from the Waste Management Districts contributes to service provision in peri-urban areas which are serviced by the Community-Based Enterprises (CBE's).

The characteristics of key informants who provided the information are provided below:

4.2 Demographic Characteristics of Key Informants

Figure 4.1 Gender of key informants



Source (Field data)

The above graph provides a picture of the gender of the key informants. Male respondents were six against one female respondent.

4.3 Process of Engaging of Private Companies Collecting Garbage

The key informants revealed that the private companies were brought on board due to various reasons as can be seen from the following responses;

“The population of Lusaka grew higher than the ability of the council to provide its service hence the introduction of franchise companies to meet such a need.”

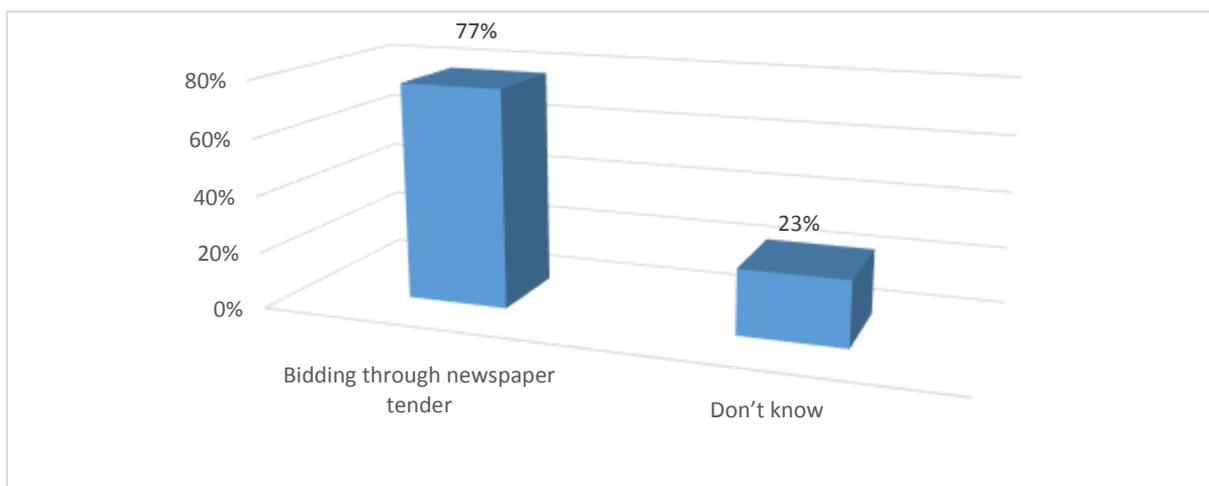
“LCC could not manage to collect waste in the entire city, hence private companies were introduced so that they could help.”

“This has followed the realisation that the local authority had no adequate capacity to provide waste collection services.”

“The local authority was overwhelmed with service provision in the area of garbage collection, private companies were given franchise contracts to do so.”

It was important for the researcher to find how the waste management unit brings on board the private companies involved in garbage collection.

Figure 4.2: How Private Companies are brought on Board in Garbage Collection?



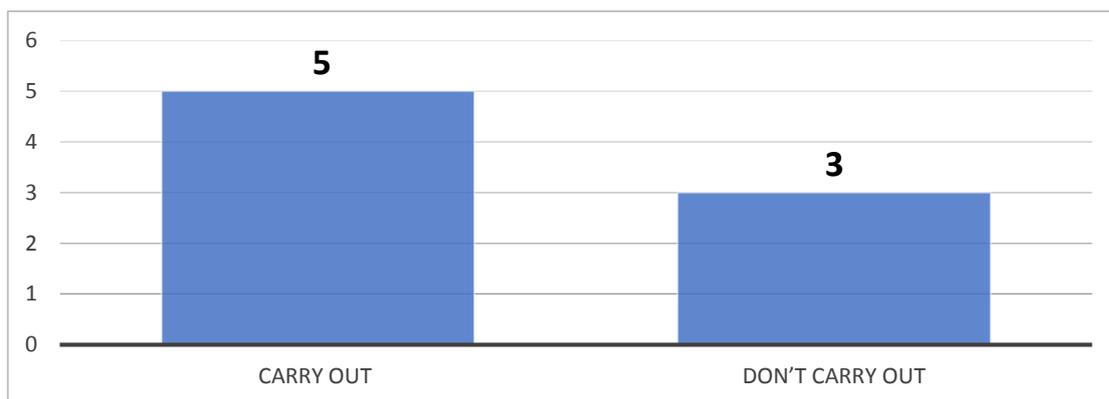
(Source: Field data)

From the graph above, it is revealed that the private companies collecting garbage are engaged through bidding which is advertised as tenders in newspapers as indicated in 77 per cent of the responses as opposed to 23 per cent who did not have information on how the private companies collecting garbage were brought on board. The respondents mentioned that the bidding process was very transparent.

4.4 Minimum Standards and Capacity Assessment Required Before Engagement of Private Companies Collecting Garbage

The Waste Management Unit has a role of ensuring that the private companies intending to engage in collecting garbage from the Waste Management Districts meet the minimum requirements by carrying out capacity assessments before execution of the contract. Therefore, the question as to whether a capacity assessment was carried out before engaging a private company collecting garbage was asked.

Figure 4.3 Information on Whether the Lusaka City Council Carried Out Capacity Assessment before Engaging the Private Companies



(Source: Field data)

From the graph above, it is noted that five of the key informants responded that they carry out a capacity assessment before engaging the private companies while three stated that they do not. The findings further revealed that the type of equipment or machinery that the private company collecting garbage possesses is one major prerequisite that is assessed before any company could be granted a contract by the Lusaka City Council. The major reason why the type of equipment is a prerequisite is that garbage is handled once at any particular period. Once a specific vehicle is loaded with garbage it is expected to tip the garbage at the dump site once in a day. The use of open trucks is not recommended because the garbage is handled

using shovels which is a health hazard. The minimum required recommended equipment/machinery (vehicles) comprise;

- *Tipper Truck;*
- *Compactor; and*
- *Skip truck, as described by one of the key informants.*

The key informant further mentioned that *“yearly, additions to the equipment have to be made depending on the number of clients being served in a specific waste management district.”*

Evidence as to the fact that the assessment is carried out is stated below (from the key informant's responses);

“Things like a fleet of vehicles and type to be used need to be checked to ensure suitability. The number of staff is also checked and how knowledgeable they are.”

4.5 Contract Prerequisites Followed Before a Private Company is Involved in Garbage Collection

The findings revealed that the important prerequisite which is followed before engaging a private company in the garbage collection is equipment and machinery as already alluded to above.

One key informant mentioned that:

“A private company is expected to possess three types of recommended vehicles before it is engaged to collect garbage. The private company is thereafter expected to procure additional vehicles on a yearly basis to increase the fleet owned although this solely depends on the increase in the clientele base.”

These are cardinal prerequisites which determine the successful award of a formal contract. After the capacity assessment, the preferred private company is selected and from the responses, it is clearly noted that a formal document which is a contract is used to engage the selected private company. In addition, all the private companies collecting garbage are

expected to adhere to the laid down procedures as stipulated in the By-laws and the Franchise Agreement.

4.6 Development of Routes for Garbage Collection

From the responses regarding the development of routes for waste collection, the findings indicate that staff from the Waste Management Unit are responsible. However, the contrary response from the Lusaka City Council states that the private companies are responsible for developing routes for waste collection. This is in line with Article 13 of the franchise contract which clearly states that the contractor is to provide the council a schedule of all the roads, streets and lanes to be serviced in the WMD in accordance with the terms of the contract. The private collecting companies are the right staff to develop routes because they are responsible for identifying the households to be serviced in each waste management district. The two private company proprietors interviewed provided information on the areas where they provide services.

4.7 Minimum Standards for Private Companies Collecting Garbage

Figure 4.4 Minimum Standards Guiding Operations of Private Companies



(Source: Field Data)

An assessment was done to observe if the private companies have stated minimum standards which guide their operations, from the responses, the graph indicates that six of the key informants represented by 66 per cent stated that private companies collecting waste have minimum standards while two represented by 22 per cent stated that they were not sure whether they had or not and one represented by 11 per cent stated that they did not have. The minimum standards referred to are enshrined in the Franchise Service Contract and include;

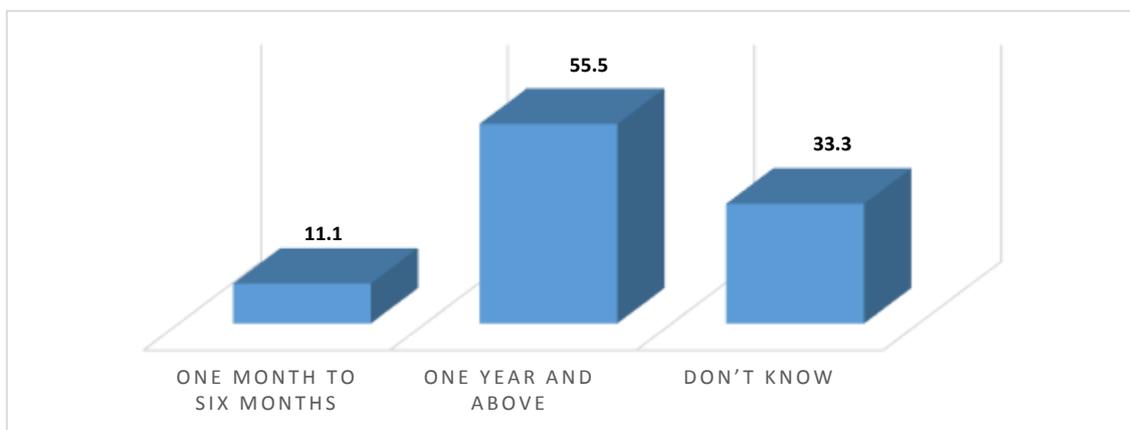
weekly collection, adequate equipment, transport and personnel, use of the designated dumpsite and adherence to ZEMA and local municipal guidelines.

Although the findings revealed that the private companies have the stated minimum standards, one of the key informants stated that;

“We requested for land from the council to erect offices and garages for equipment as the private companies involved in garbage collection are currently renting office space and paying for parking space which is very costly.”

4.8 Interval of Reviewing Contracts for Private Companies Collecting Garbage

Figure 4.6 Interval of Reviewing Contracts



(Source: Field data)

From the graph above, it is revealed that the duration of reviewing the contracts for the private companies is one year and above as can be observed from 55.5 per cent responses of the key informants. Only one respondent stated that the contracts are reviewed during a period of one to six months.

4.9 Number of Households Served by the Private Company Collecting Garbage

One important determinant of performance is the number of households serviced by the private companies collecting garbage. The findings from the key informants reveal that each company services over 16 households and this is not overwhelming for them. One of the key informants mentioned the following;

‘The private companies involved in the waste collection have a huge task of identifying and recruiting the actual clients of these houses. This is because the council has awarded contracts to private companies to specific districts and not individual households in a particular district.’

“The clients who do not oblige to have their garbage collected by a private company in a particular district have to be talked to by the Council officials.”

“The companies are not overworked because the more the number of houses serviced the more revenue collected”.

The issue of cost recovery can be raised because the distances to be covered on each waste collection route depend on the traffic situation and fuel cost prevailing in the nation at a particular time. It is observed from the demographic characteristics of the clients that the private companies collecting garbage provide services to the medium and low-density areas which experience high levels of traffic congestion due to the high-income status of the clients. The other determining factor is the number of vehicles each company has. As a result, there are some instances of delay in collecting waste on the stated days which can be attributed to the above-stated factors. The information was summarised in the table below:

Table 4.1 Number of Households Served By Private Company Collecting Garbage

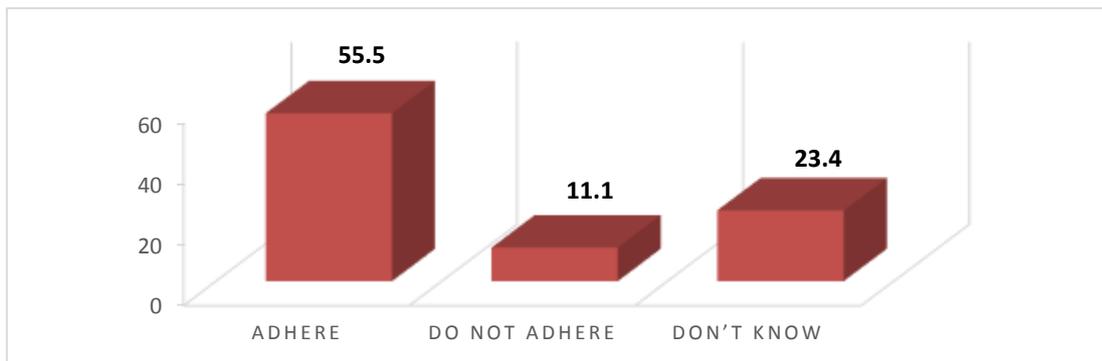
| NUMBER OF HOUSEHOLDS SERVED | RESPONDENTS | PER CENT |
|------------------------------------|--------------------|-----------------|
| Sixteen and more | 6 | 85.7 |
| Non-response | 1 | 14.3 |
| Total | 7 | 100 |

(Source Field Data)

Find out the recommended number of households per company or per vehicle used? Are these companies overworked or not. The recommended number of households to be serviced by the private companies is not specified by the council in the contract agreement.

4.10 Private companies collecting garbage adherence to laid down procedures

Figure 4.6 Adherence to Laid Down Rules/Regulations



(Source Field Data)

The key informants interviewed representing 55 per cent stated that the private companies adhere to the laid down procedures. However, one key informant depicting 11 per cent stated that they did not follow the laid down procedures. The graph below provides information on the penalties for not following the laid down procedures. Six of the key informants depicting 66 per cent mentioned that private companies collecting garbage that did not follow the laid down procedure would have their contracts terminated. A total of 23.4 per cent of the respondents mentioned that the private company is suspended for not following the laid down procedures. The common penalty for defaulting private companies collecting waste is termination of the contract. This was usually after performance notices were issued.

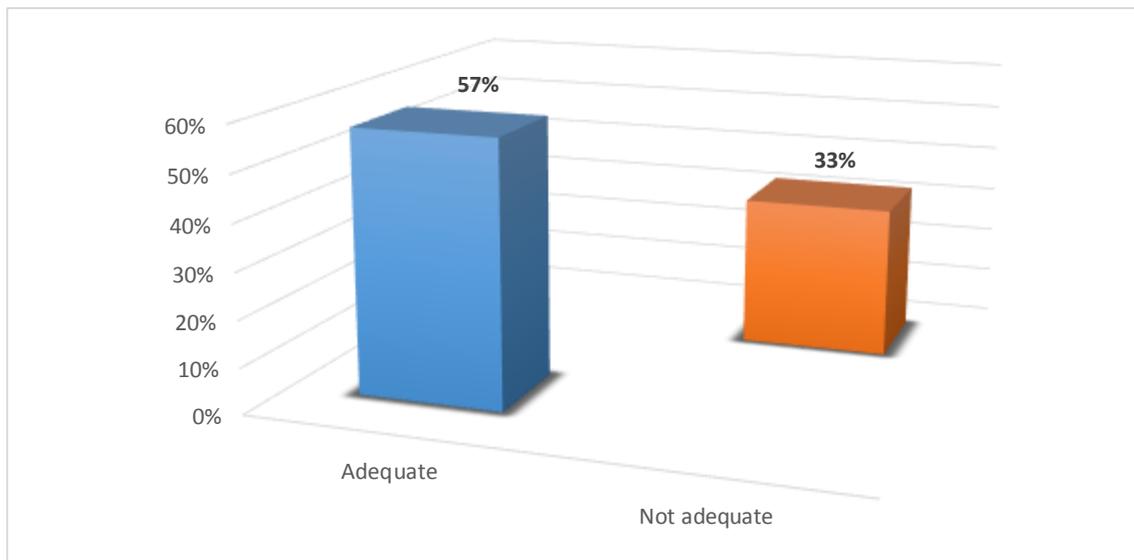
Figure 4.7 Penalty for Defaulting Private Garbage Collecting Companies



(Source Field data)

4.11 Adequacy of By-laws for Defaulting Clients

Figure 4.8 Adequacy of By-laws for defaulting clients



(Source Field Data)

With regard to the adequacy of the By-laws for defaulting clients, the findings revealed that 57 of the respondents stated that the By-laws are adequate as depicted by the overwhelming response from the key informants and 33 responded by stating that the By-laws are not adequate. It is, however, shocking to observe that clients continue to default and this could be attributed to the lack of enforcement of these By-laws by the inspectorate from the Lusaka City Council. The inspectors were expected to carry out inspections on a daily basis to ensure that clients were adhering to the enacted By-laws.

One of the key informants stated the following:

“The most common default experienced is the failure to pay for the service by the clients in waste management districts. This is mainly attributed to the fact that clients in many cases do not inform the service provider when they shift from their place of residence to a new location. This is because private companies have a credit facility arrangement which requires them to provide a service and issue an invoice to the client at the end of each month. Clients are observed to be from time to time shifting as far as the other provinces like

Copperbelt or Eastern Province, just to mention a few, and end up not clearing a bill for a specified period.”

Another key informant stated that *“the other common type of default is clients changing the service provider without informing the initial contracted service provider. This is due to the fact that the illegal garbage collectors begin offering a service in an area which is designated to a formally contracted private company through the normal bidding process. Clients switch to illegal service providers who offer the service at a lower rate as compared to the formally contracted private companies”*.

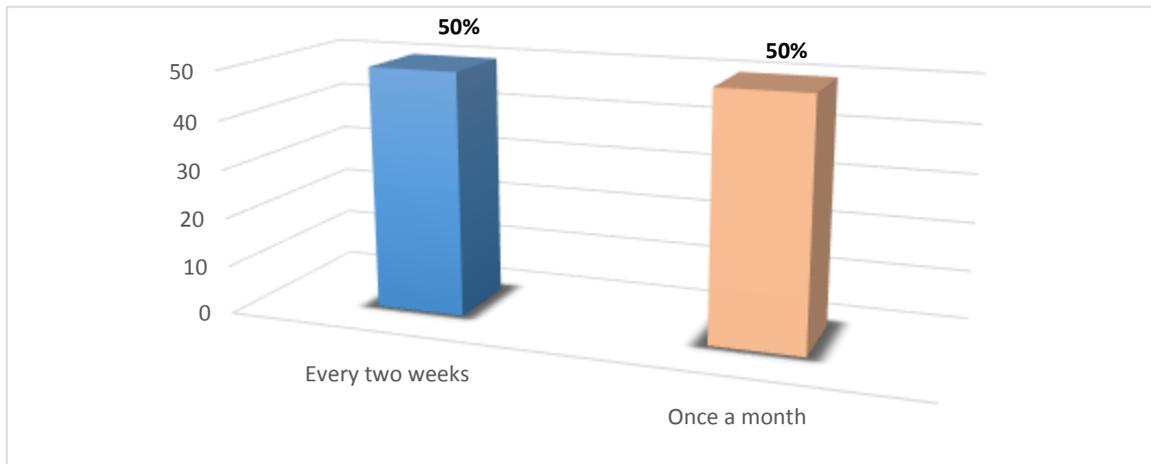
One respondent also indicated that “the Lusaka City Council have from time to time been engaged to curb the illegal companies.” The private companies immediately inform the Lusaka City Council if they observe an illegal collector operating in their waste management district. The Council has a role of prosecuting the illegal collectors by taking them to the Council court.

4.12 Frequency of Inspection Visits by Lusaka City Council Inspectors

In order to ensure that high-level performance was maintained, the inspectors from the Waste Management Unit were required to frequently inspect the services being offered by the companies.

One key informant stated that the actual situation on the ground was that inspections are carried out once a month usually at the time the private companies pay the tipping fees. The council staff among other things inspects the private company offices, the vehicles being used and if the waste is being collected from the households. Inspections should be done on a daily basis but what is happening on the ground is different. The Council has the sole responsibility of conducting inspections.

Figure 4.9 Frequency of Inspection Visits



(Source Field Data)

However, most policies that guided the operations of the private companies collecting garbage were not well in effect and not monitored. Among the most pronounced policy regulations were licensing of waste transporters/managers as provided for under SI No 71 of 1993, compliance monitoring/patrols provided for under SI No 125 of 2001 Section 15 and attending to public complaints and emergencies provided for under part II Section 6 of the EPPCA. These regulations were not put to effect as evidenced by the research findings. Additionally, the general public was not well informed on the different policy guidelines and hence monitoring was compromised.

According to the findings, the process of waste disposal began with the registration and licensing of private companies to collect the waste. This involved the monitoring and evaluation of the company to be licensed to ensure it had all the required tools or equipment and staff to carry out its duties. This was then followed by the distribution of waste disposal bags to the households that entered a formal agreement with the private company on the payment and the frequency of waste collection. Waste was then collected from households at the prescribed frequency and in the prescribed disposal bags and was transported using the available transport system to the designated dump site. However, the process was not always a smooth one as most companies do not fulfil their end of the deal and ended up not collecting the waste at appropriate times as well as not dumping the waste at the right dumpsite. This was usually because of the lack of monitoring by the municipal authorities.

4.13 Conclusion

The study has not only revealed the processes involved in the disposal of garbage in the waste management districts, but has also shown the procedures employed by the Waste Management Unit in engaging the private companies in garbage collection. It has been revealed that the council established partnerships with the private companies in 16 waste management districts and in all except one which includes the Central Business District, garbage collection is outsourced to the private companies through the franchise contracts. The private companies collecting garbage were brought on board due to the increased population in Lusaka. The increased population is currently higher than the ability and capacity of the LCC in terms of providing garbage collection. The study has further revealed that the companies involved in garbage collection are engaged through newspaper bidding tenders and carrying out of capacity assessments. The companies are expected to possess a minimum of the recommended machinery and vehicles. Despite the carrying out of capacity assessments, it is observed that the private companies involved in garbage collection are facing challenges of capacity in terms of fleet and equipment.

The LCC has not done enough to create an enabling environment for the companies to efficiently and effectively provide garbage collection services as they are renting office and parking space which is a huge cost on their operations. The private companies are serving more than 16 households which they solely recruit and identify without assistance from LCC. These companies are into profit making and therefore they are not overwhelmed because the more clients they recruit the more profit they accumulate. However, the challenge is faced if LCC does not adequately sensitize members of households in these districts to have their garbage collected by a formally registered private company. This leads to the involvement of illegal contractors providing services in the specific waste management district where a registered private company should provide a service.

The researcher has noted that the enforcement of the enacted laws by LCC leaves much to be desired as the daily inspection visits are not carried out. Instead inspections are carried out on a monthly basis. The researcher is of the view that once a private company is awarded a contract to collect garbage in a specific waste management district the role of penalizing illegal contractors providing a service should be given to the formally registered company. The penalty can be negotiated in such a way that the illegal contractor pays a certain

percentage to the formally registered private company for encouraging in its waste management district in order to enhance cost recovery. These private companies have to adhere to the franchise contract by paying annual franchise fees and tipping/disposal fees. Further the company should be given the mandate of penalizing illegal contractors as they are responsible for recruiting the clients of various households. The next chapter analyses the performance of Private Companies in garbage collection.

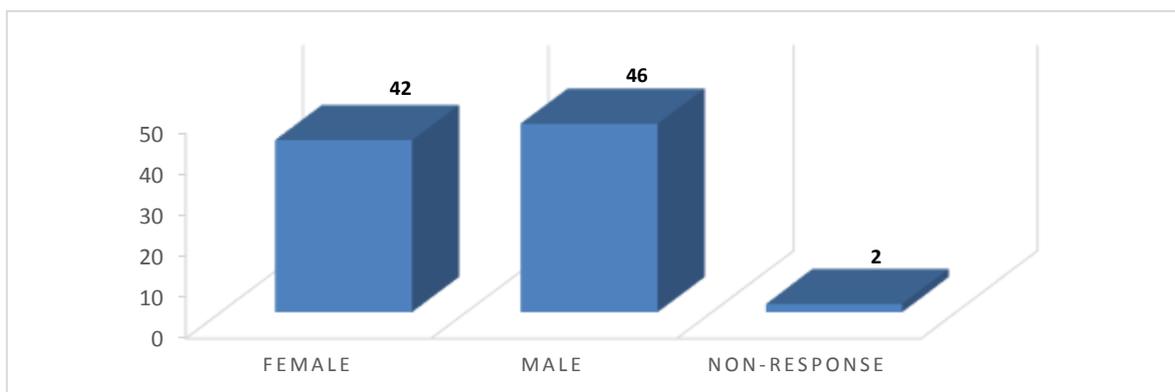
CHAPTER FIVE: PERFORMANCE OF PRIVATE COMPANIES WHICH COLLECT GARBAGE

5.1 Introduction

This chapter analyses the performance of the private companies which collect garbage. It begins by providing information on the demographic characteristics of the members of the public in the waste management districts where the study was undertaken. It reveals the levels of awareness of the the members of the public with regards the existing polcy guidelines that govern the operations of the private companies involved in garbage collection. The various ways of information dissemination of the existing policies are outlined. The payment plans and adherence to laid down procedures will be discussed. Further issues of storage of waste and provision of refuse bags will be outlined. The chapter will conclude by discusses the mode of transport and satisfaction of clients among other themes.

5.2 Demographic Characteristics of the Respondents

Figure 5.1: Gender Distribution of the Respondents

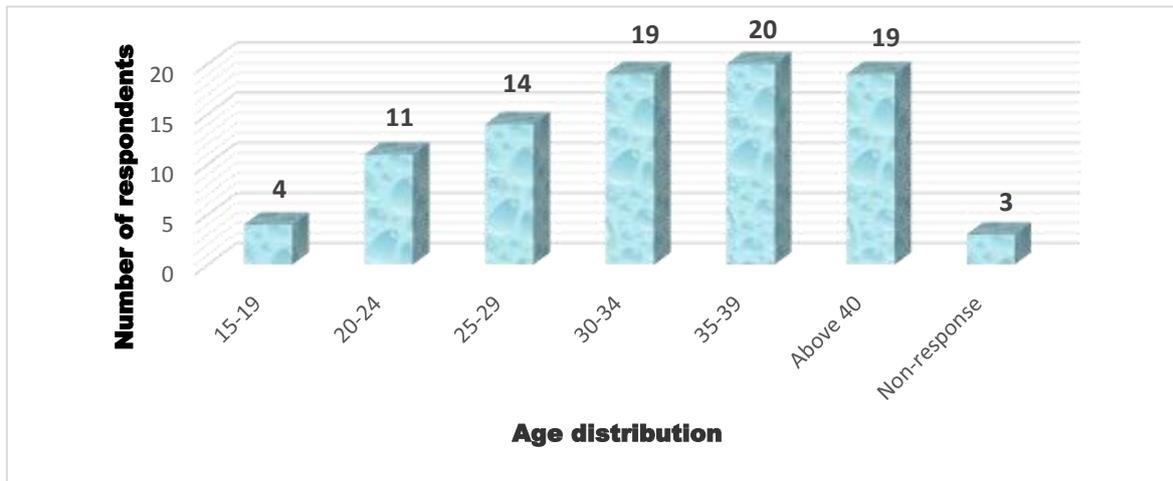


The distribution of the respondents in terms of sex is shown in the chart above. It can thus be observed that the respondents are fairly distributed, even though the number of males (46) is slightly higher than that of women (42).

5.3 Age of respondents

The other characteristic that is considered is the age distribution as provided for in the graph below;

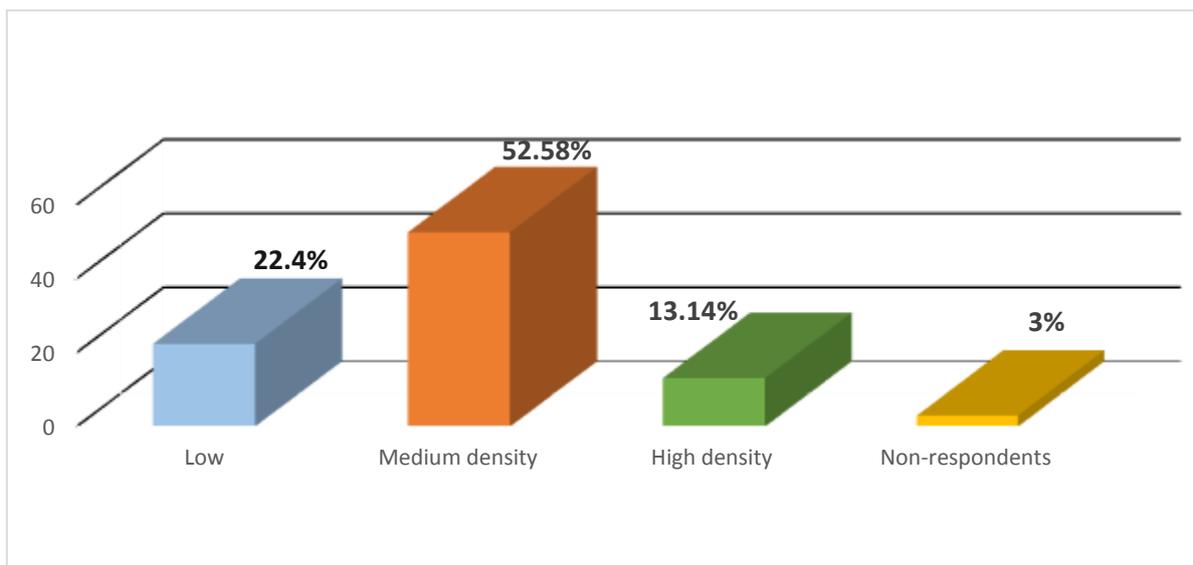
Figure 5.2 Age distribution



The age distribution is as shown above with the highest number falling in the age group of 35-39 of 20 respondents, followed by age groups 30-34 and above 40 both recording a total of 19 respondents each.

5.4 Type of Residential Area

Figure 5.3 Residential Population Density

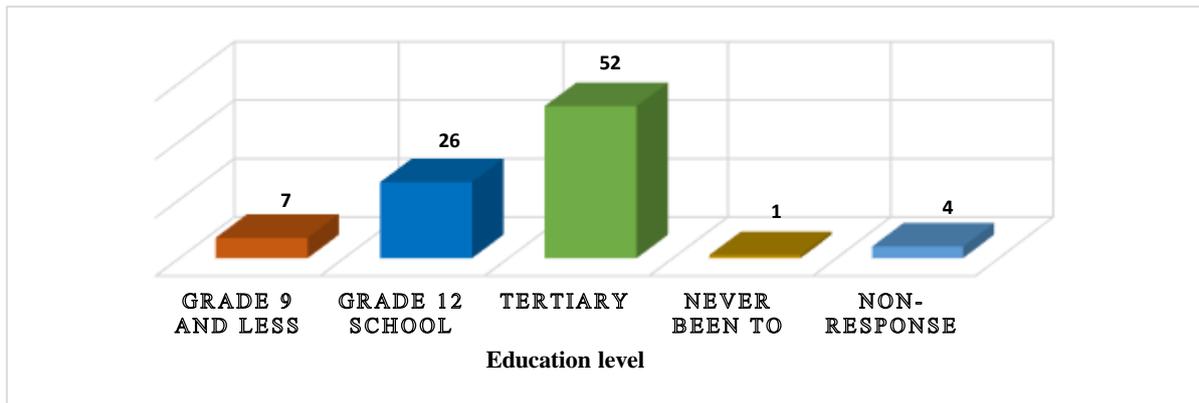


(Source Field data)

The majority of the respondents are from the medium density area totalling 52 depicting 58 per cent, followed by low density with 22 representing 24 per cent and the least is represented by 15 per cent from high density.

5.5 Level of Education

Figure 5.4 Level of Education

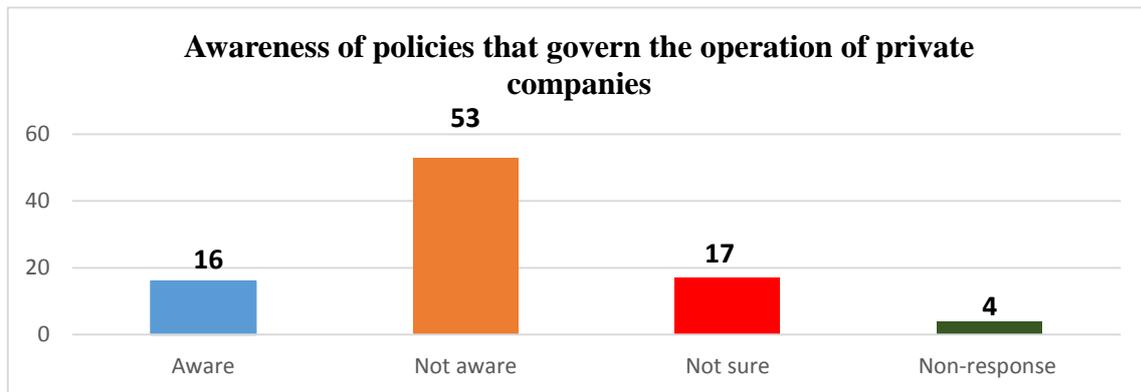


From the findings, the education levels of the respondents that had attended tertiary education were 52 followed by Grade 12 School Leaver represented by 26 respondents while 7 respondents attended less than Grade 9.

5.6 Respondent’s Knowledge of the Policies Governing the Operations of Private Companies Collecting Garbage

In order to analyse the performance of the private companies in garbage collection, respondents were asked several questions of which the key one included ‘the awareness or knowledge of the policies that govern the operation of private companies that collected waste in the districts?’ A number of people interviewed revealed that they did not have knowledge of the policies that governed the operations of the private companies that collect garbage in their Waste Management Districts.

Figure 5.5 Awareness of the Policies that Govern the Operations of Private Companies Collecting Garbage



(Source: Field data)

Out of the 90 respondents in the sample, it was revealed that 16 (18% of the total sample) are well aware of the policies that govern the operations of the private companies collecting waste. However, the majority of the respondents represented by 53 of the total do not have knowledge of policy guidelines that guide the operations of these private companies. The respondents have various reasons for not having knowledge of the policy guidelines relating to the operations of private companies collecting waste in their districts. Some respondents revealed the following;

“I have not taken the time to read through the policies”

Whilst others stated that;

“The information is not easily provided by Lusaka City Council”.

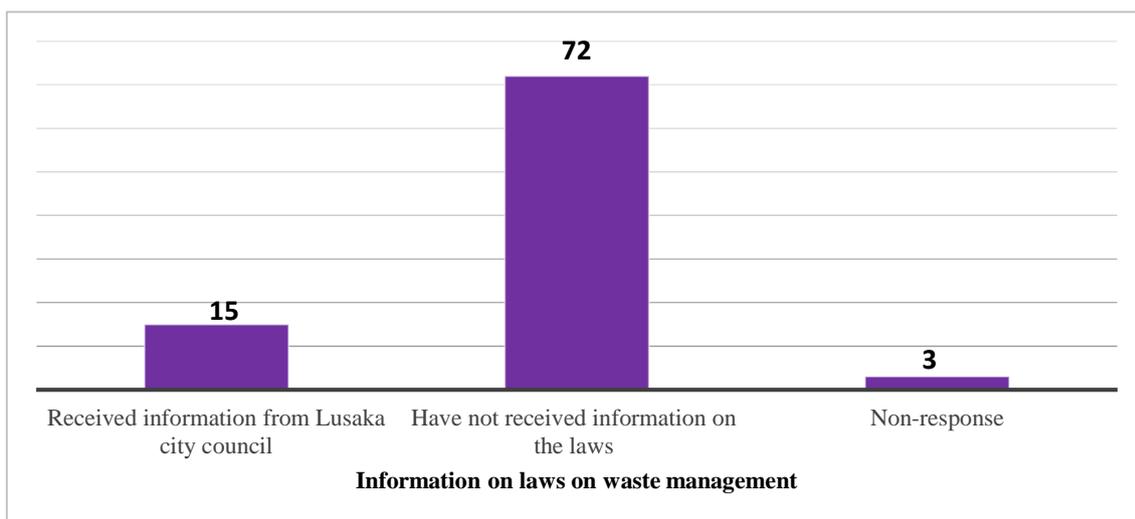
Varying responses to lack of knowledge also reveal that no education is provided regarding the existing policies guiding the operations of the private companies. It is, however, worth noting that some respondents mention that they took time to visit the council to acquire knowledge whilst others gained knowledge through observing vehicles collecting garbage at their neighbour’s house. In addition, some respondents sign contracts for garbage collection and yet they have not taken the time to read through the policies. One would begin to wonder whether good practices of solid waste management will be achieved if members of the public residing in the waste management districts do not have knowledge of the various existing policies. The good practices of waste management involves the collection and proper management of solid waste, in a systematic manner, regularly and in time. Thus, the follow-

up question aims at assessing the views of the respondents regarding their opinion on the guidelines which regulate garbage. The majority of the people interviewed (8 depicting 19% out of those who had knowledge about the policy guidelines) were of the view that the guidelines were fair whilst 16 per cent stated that they were good. The rest of the respondents had varying views. From the views of the respondents, it can be concluded that the policies are attainable.

5.7 Information Dissemination of Policies by the Lusaka City Council

In order to achieve the proposed objective, it was also important to find out whether the residents receive information on the policies governing the operations of private companies collecting waste and how they received the information from the Lusaka City Council.

Figure 5.6 Information Dissemination by the Lusaka City Council on the Laws



(Source: Field data)

From the graph above, it was revealed that 72 (80%) out of the 90 respondents indicated that they had not received the information from the Lusaka City Council and 15 (16.7%) respondents stated that they received the information. The above revelation depicts that information dissemination on the policies governing the operations of the private companies collecting garbage to the residents in the Waste Management Districts by officers from the Waste Management Unit has to be scaled up. Lack of knowledge leads to uncontrolled dumping of garbage as residents do not have information on the penalties which are stipulated in the Local Government Act. Further, the regulatory framework of the By-laws

also formed part of the knowledge. This leads to the outbreak of infectious diseases like Cholera. The Lusaka City Council, therefore, has a huge role to play with regard to information dissemination on the policies governing the operations of the private companies collecting garbage. The Lusaka City Council is responsible for zoning the Waste Management District and has to inform members of the public as to which Waste Management District they are in and also the private company responsible for collecting garbage in a particular district. The Franchise Service Agreement states that the private company collecting garbage has the responsibility of producing brochures or flyers to the waste generators or potential customers at the mobilisation stage. The brochures have information on the day of the week the service would start and the method of putting out the waste and bags or containers to be used. Further, the contractor has the responsibility of informing the customers precisely where and when to place their waste bins or containers. Customers should have information on the obligations of the private companies collecting garbage as well as the role of the Lusaka City Council in regulating its operations. It is also vital to understand how the information is received. Illegal collectors have thus taken advantage of the lack of information and are found to be providing garbage collection services without having formal contracts with the council. This is a challenge for the formally registered private companies which have running contracts with the council.

A study conducted by Chaampa (2014) agrees with these findings in the sense that residents of Kaunda Square were not aware of the legal provisions with regard to waste management. His research discovered that the environmental awareness levels were quite low. He states that the business of environmental education on solid waste management was a costly venture which required financial resources.

The Lusaka Solid Waste Management (LSW) project initiated in 2001 was the first and only project between 1996 and 2009 dealing with the brown environment. The project was anchored in Lusaka municipality and when completed in 2007, it had supported the building of a large landfill site, successfully established and consolidated a partly self-sustained Waste Management Unit inside the council structures employing 69 persons engaged in a variety of solid waste collection modalities. Major parts of Lusaka had garbage collection services available and it was estimated that between 600,000 to 800,000 citizens received solid waste collection services. The project was, furthermore, expected to have developed a replicable model for waste management available in other parts of Zambia. In 2003, the Lusaka City

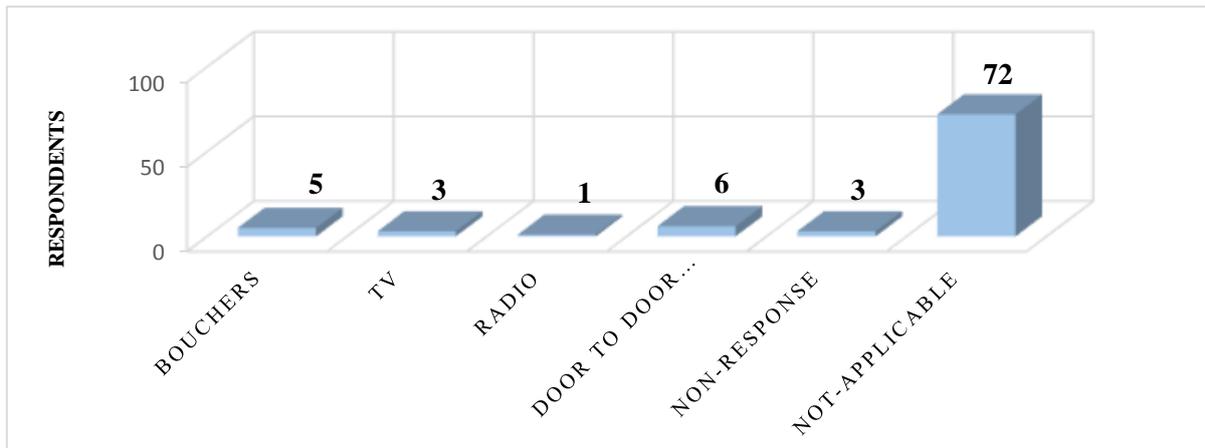
Council produced a strategic plan for municipal solid waste management for the city. Through this plan, two new waste management systems were developed to serve the conventional and peri-urban areas. The Waste Management Unit was formed as a regulatory unit for waste management in the city and was mandated to plan, organise, execute (directly or indirectly) and supervise waste management services in other selected areas in the city and the management of the disposal site. The other role of the unit was to manage and supervise the private waste contractors (franchise holders). Inspection of all waste management activities and enforcement of waste management regulations (especially the waste management laws) was also carried out by the Waste Management Unit. It was through the Waste Management Unit that private companies collecting waste were engaged. At inception, it was important for information on the policies guiding the operations and the obligations of these companies to be disseminated to concerned members of the public who would be serviced in the conventional areas. The study, however, revealed that very few individuals in the Waste Management Districts being serviced by the private companies had accessed this knowledge. Some of the responses received indicated basic knowledge. Lack of knowledge on policy guidelines brought up the concern as to whether the institutions mandated to disseminate information were fulfilling their role.

The engagement of the private sector in municipal waste management is a new concept which requires the public to have knowledge of the operations of the private companies collecting waste in the waste management districts. Thus, an informed public will do much to improve the effectiveness of municipal waste management. However, as regards the waste management districts in this research, such efforts would reach small segments of the population and thus the impact would be too small to produce the widespread change in attitudes needed to increase public participation in municipal solid waste management. This is due to the fact that majority of the respondents are from medium density areas.

5.8 Mode of Acquiring Information

The graph below summarises the responses on how the information is received.

Figure 5.7 Mode of Information Dissemination



(Source: Field data)

Arising from the information from the graph above, it is observed that six respondents, being the largest number, received the information through the door to door sensitisation while five received it from brochures.

The results of the research revealed that 15 per cent of the residents who had the information accessed it through the Lusaka City Council and further door to door sensitisation was another source of this information. As the adage goes, ‘knowledge is power’, and lack of this information led to a number of clients defaulting. According to Coad (2005), effective education of the public led to changes in habits and this required clear messages. Often, attempts at educating the public were poorly planned and ineffective. To print a leaflet or prepare a short television presentation was not enough. From Coads’ studies, programmes of public education in Gaza demonstrated an effective approach since they included various means of reaching the public among them competitions for school children, plays and puppet shows, house to house visits, provision of information in clinics and mosques, the production and use of audio-visual presentations and posters. Campaigns were to be conducted before the start of the new solid waste management service so that the communities involved were aware of what was required to participate by cooperation and paying of fees. As the collection service commenced, there should have been an intensive campaign to explain to the residents what they were expected to do with their waste, how the system operates and how they were to complain. Additionally, the impact of improved public awareness would be felt more by the service provider than the administrator leading to the reduction in the number of defaulters. Thus, the contractor had to play the leading role, although stakeholders

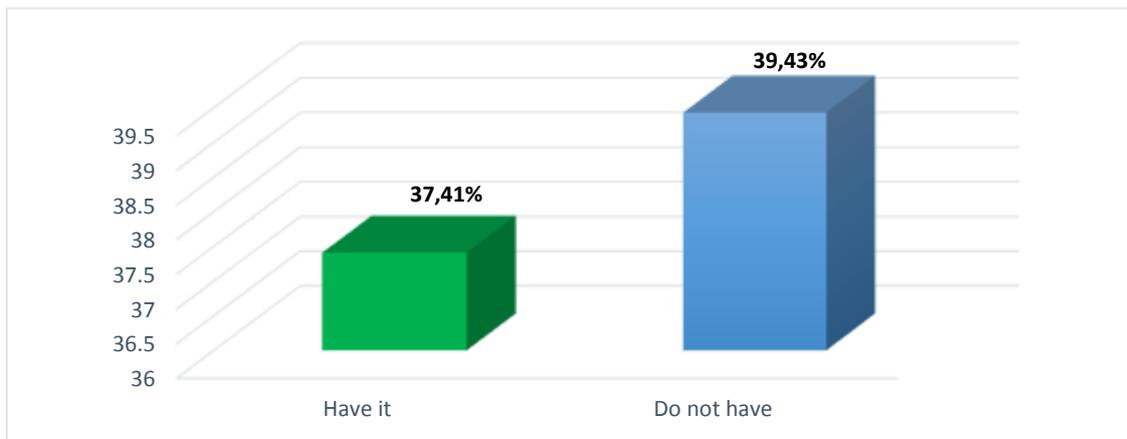
(including local administration and community leaders) were to be closely involved. In many countries, from Coads' study, even the contract documents were freely made available to the public so that citizens could check on the duties and responsibilities of the contractor and arrangements for monitoring performance. In the scenario of Lusaka, this was not the case. It was important to note, from Coads' publication, the fact that experiences taught that the support and cooperation of the general public through information dissemination played a vital role in ensuring successes of any programme of private sector participation, yet often little attention was given to generating the support. The involvement of the public should be seen as central to any strategy for introducing private sector participation and, therefore, the topic was located at the centre of this publication.

Chaampa (2014) states that the Lusaka City Council seemed to be allocating meagre resources towards the environmental education awareness programmes and management of solid waste in the city. Chaampas' study recommended that the council should start engaging the private sector in the educating of the community.

Attitudes towards contracts in both developed and developing countries differed as individuals had different perceptions about the role of a contract. Some regarded a contract as a reliable guide that defines what the contractor and the client were to do, and the essential reference point for deciding any dispute. On the other hand, others considered it to have less significance and relied much more on power, control of finances and their personal connections to define what is done and how the relationship between the parties works. According to Coad (2005), when two parties to a contract had very different views on the role of the contract and each party assumed that the other had the same understanding as itself, difficulties and conflicts were expected. In other countries, a contract was seen as a binding agreement which determined liabilities in a court and so all negotiations were to be completed before the contract was signed. The study revealed that 58 of the 90 respondents subscribed to the waste collection service through a formal contract.

5.9 Payment Plan

Figure 5.8 Summary Information on Residents Who Had Payment Plans in Place



(Source: Primary data)

From the graph above, only 37, (41%) responded that they had a payment plan while 39, (43%) did not have it. This revealed that differences between residents who have a payment plan and those who do not have any in place were very minimal. According to the Franchise Service Agreement, Article 9, the contractor has the right to charge waste generators tariffs for the collection of waste. The contractor charged tariffs which are negotiated and mutually agreed in writing between the contractor and the Waste Management Unit. The tariffs are only to be increased in line with inflation, according to the cost of living index published by the Bank of Zambia and Central Statistics Office on an annual basis, (Franchise Service Agreement Article 9). The private companies collecting garbage are only allowed to increase tariffs with the permission of the council. Increasing of the tariffs by the private companies collecting garbage is based on the council increasing tipping fees. The private companies collecting garbage charge tariffs ranging from a minimum of K30 to a maximum of K70 per month. These charges apply to all Waste Management Districts within the Lusaka District.

One respondent stated that *“the private companies collecting garbage should, reduce the monthly subscription amount.”*

This implies that the fees are on the high side and residents of waste management districts are requesting for a reduction.

The two private companies operating in the waste management districts stated that they had payment plans using a credit facility in place for the clientele which depended on the prevailing economic situation of the country. The mode of payment ranges from one to six months payment after the service is offered. The payments are made either directly to the offices or the private companies physically collect the fees upon collection of garbage as and when the payment is due, in accordance with the credit facility.

5.10 Clients Adherence to Laid Down Procedures

However, people’s action should be in line with the guiding principles of the operations of the private companies collecting waste. The table below is a Cross Tab between the questions ‘do you enter a formal contract when registering with the waste collection private companies?’ and ‘do you follow laid down procedure/rules set by the garbage collecting companies?’

Table 5.1 Provisions of Formal Contract and Following Laid Down Procedure

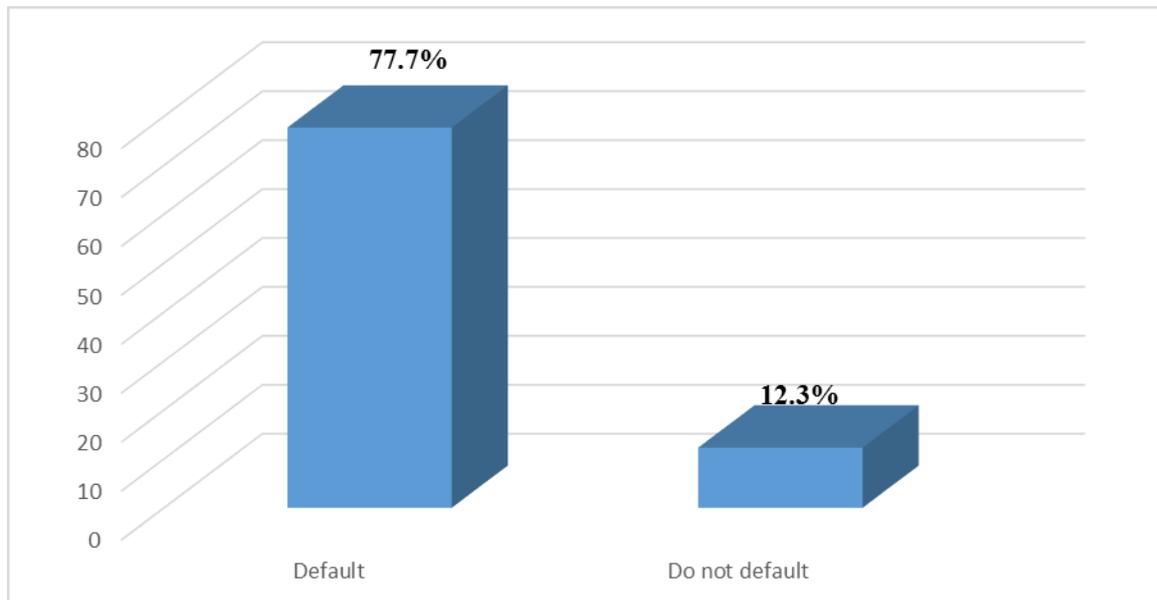
| Do you follow laid down procedure/rule set by the waste collection companies? | | | | |
|---|----------------------------|-------------------|--------------|-----------|
| Do you enter a formal contract when registering with the waste collection private companies? | | Follow procedures | Non-response | Total |
| | Formal contract entered | 58 | 1 | 59 |
| | No formal contract entered | 21 | 0 | 21 |
| | Non-response | 3 | 6 | 9 |
| Total | | 82 | 7 | 90 |

(Source: Field Data)

From the Cross Tab table above 58 respondents followed procedures of the formal contract. 21 respondents did not have a formal contract. The above response implies that the contract document required to be reviewed and strengthened because members of households who did not have a formal contract were not provided with a service.

5.11 Defaulting Clients

Figure 5.9 Clients Who Default or Delay in Paying Prescribed Fees



(Source: Field Data)

From the findings, it was revealed that a huge number of clients (77.7%) in the zones serviced by the private companies default the By-laws which are enacted and the penalty fee charged is K450. The actual number of defaulting clients is not revealed but they are reported to the inspectorate of the Waste Management Unit and are prosecuted. According to the Franchise Service Agreement, private companies collecting garbage cannot take any action on the clients who default; their role is to report the defaulting clients to the Waste Management Unit.

From the findings, it was revealed that clients defaulted by delaying to pay for the services provided. The delay could be attributed to the lack of willingness to pay.

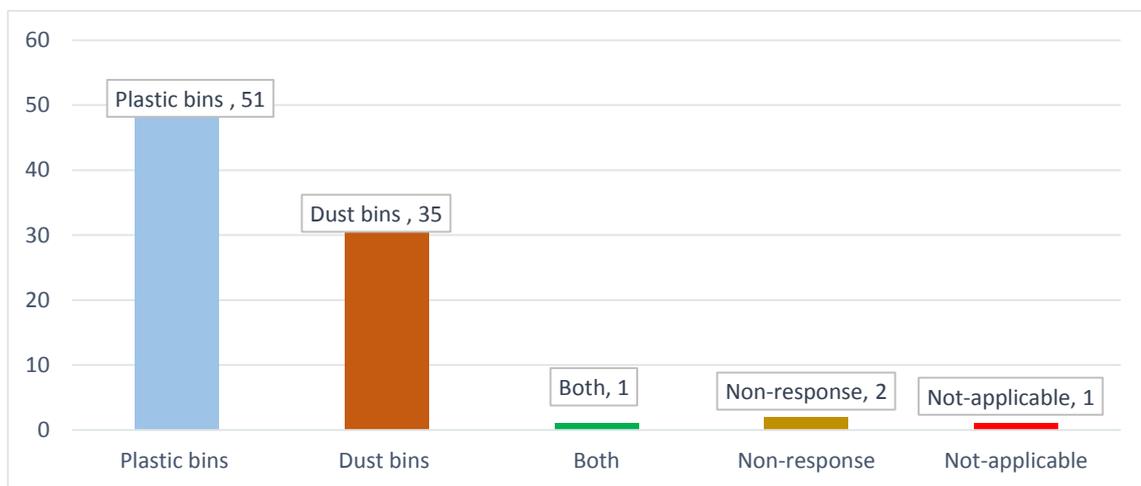
The two private companies stated that “the service is immediately *discontinued for clients who fail to pay the monthly fee*”. The private companies then report the defaulting clients to the council and the client is taken to a fast track court for persecution and fining. The collection of these tariffs has a large impact on the operations of the companies. The major impact is that the companies lose out on profit considering the fact that they offer a service using their own resources because of the credit facility and if a client fails to pay for a service at the month end, the loss is born by the private company. The governing policies do not

provide information on the penalties the private garbage collecting company can apply to defaulting clients as the defaulters are to be reported to the council through the monthly/quarterly returns.

5.12 Storage of Garbage before Collection

Respondents were asked how they stored the waste generated from their home before the collection day. The following were the responses obtained with regard to storage of waste before disposal.

Figure 5.10 Storage of Garbage at Home



(Source: Field data)

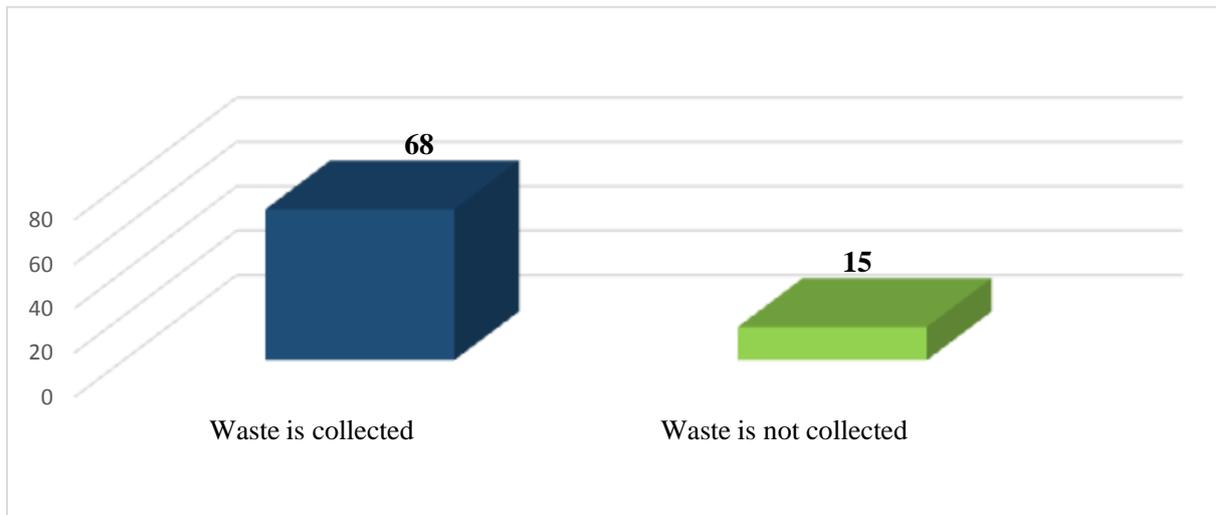
From the graph above, it was observed that out of the 90 respondents, 51 used plastic bins and 35 used dustbins for waste storage. This is a clear indication that respondents use either plastic bins or dust bins to store their garbage. It was therefore important to establish whether the storage material used was the recommended according to the by-laws and thus the following question below were asked to the respondents.

5.13 Reaction When Garbage is Not Stored in Prescribed Bags

From the graph below, it was observed that 68 (75%) of the respondents agreed that their garbage was collected when it was not stored in the prescribed bags. Only 15, (16%) reported that their waste was not collected when found not to be in the prescribed bags. One private company collecting garbage and staff from the Lusaka City Council also agreed that garbage is collected when it is not stored in the prescribed receptacle. This is because the

clients are not provided with refuse bags for storing their garbage. The clients do not store garbage in the required receptacles because they claim that they are expensive. The other processes, however, follow after the waste is collected in transit. From the responses, one could conclude that not all the waste that is collected reached the designated places as most of it is spilt on the way especially if the transport system being used is an open truck.

Figure 5.11 Reaction when Garbage is not Stored in the Prescribed Bags

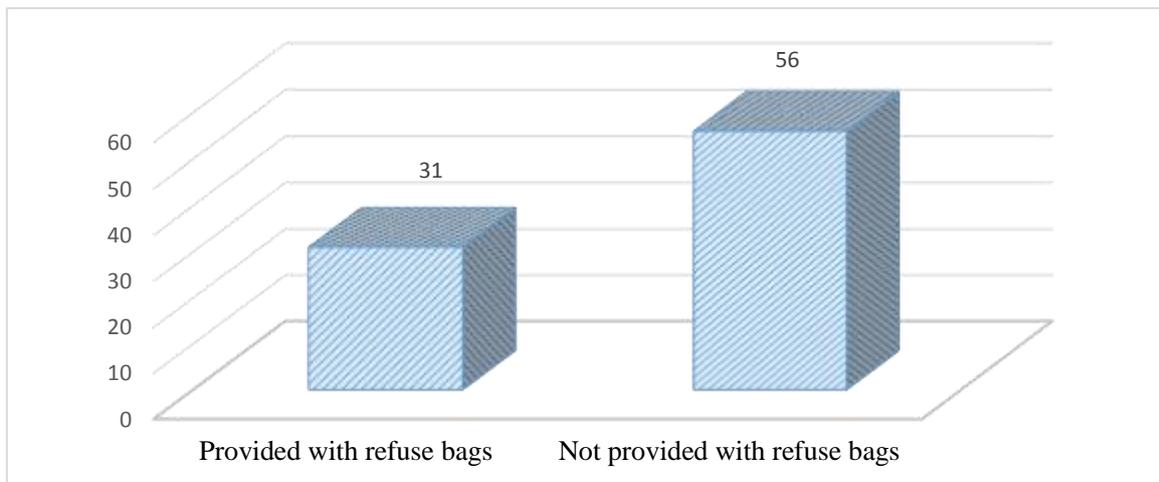


(Source: Field Data)

The graph above represents a response to the question of whether the garbage is collected when it is not placed in the disposal bags. However, it is not always that the waste is collected as the results indicate that 16.6 per cent of the garbage not stored in the prescribed bags before the collection is left uncollected by the private collecting company. At this point, it is necessary to ask the private companies collecting waste what happens to the garbage that is not collected since it is not placed in the disposal bags. This to some extent is the reason as to why certain households end up indiscriminately dumping the waste on pathways and other unauthorised premises hence messing up places with garbage contrary to the By-laws put in place. All garbage is expected to be dumped at the designated dumpsite (Chunga Landfill) which is the recommended dumpsite by Zambia Environmental Management Agency as revealed in the findings. The private companies collecting garbage have the responsibility of advising clients who do not store their waste in the prescribed bags to follow the laid down procedures as this has a bearing on the health and safety standards. The private companies advise the clients to store the waste in the prescribed receptacles.

5.14 Provision of Refuse Bags for Garbage Collection

Figure 5.12 Bags for Refuse Collection



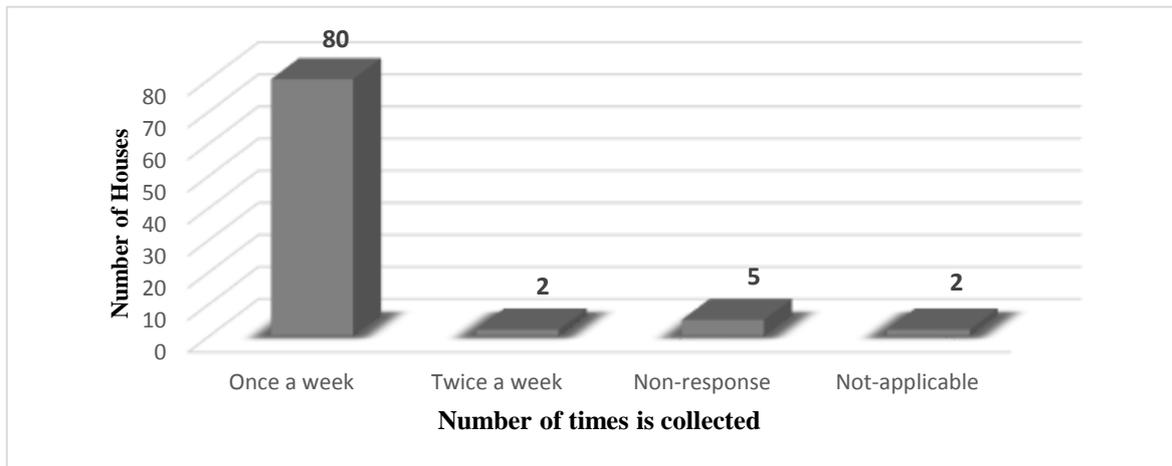
(Source: Field Data)

From the above response, it was observed that 56 of the respondents were not provided with refuse bags by the private companies collecting waste. Garbage in the management districts is not stored in the prescribed receptacles contrary to the statutory instrument No. 100 of 2011. The enacted law clearly states that each private company collecting garbage in the specific Waste Management District should provide refuse bags for garbage collection. The situation on the ground is not as expected as the law is not being followed as revealed by the findings above.

5.15 Number of Times Garbage was Collected

The other question that was asked to determine the performance of private companies collecting garbage was how frequent garbage was collected in different households. The bar graph below shows the distribution of responses.

Figure 5.13 Number of Times Garbage was Collected



(Source Field Data)

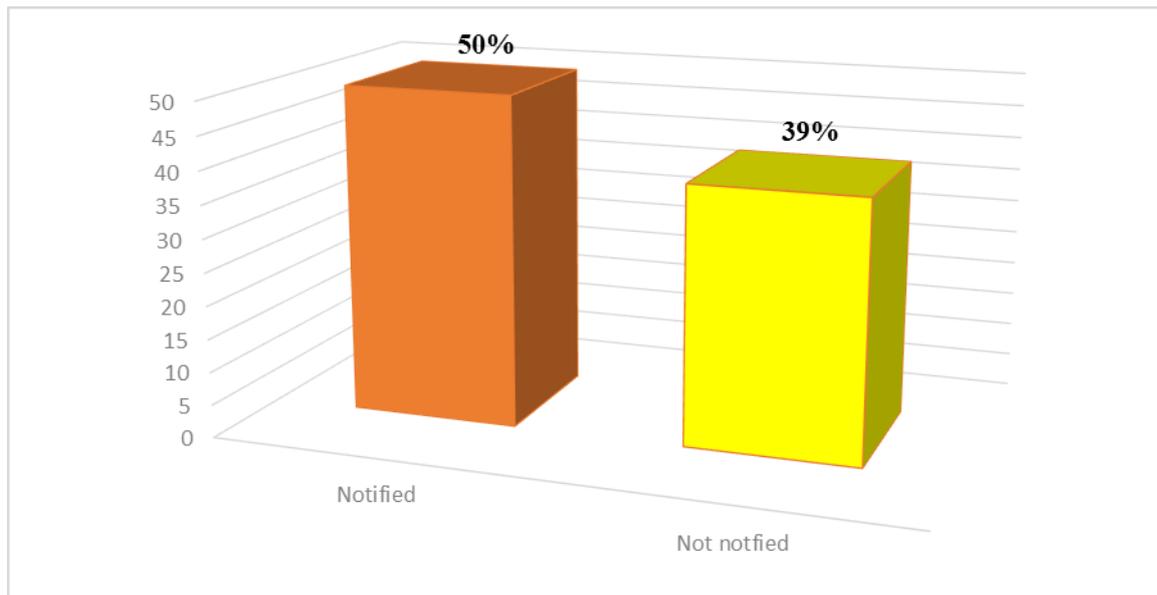
From the above graph, 81 out of the 90 respondents said the waste collecting company collected garbage from their homes once a week while 2 respondents recorded twice a week. A follow-up question which was asked was the opinion of the frequency of garbage collection. The residents are happy with the schedule because it implies less cost. Collection of garbage twice a week means that these residents have to increase payments of the monthly fee.

These findings varied from those in the survey conducted by Kwarteng and Dijk (2008) who concluded that the performance of the private companies depended on how they organised their operations to utilise the vehicles in terms of number of trips made in a day and the load maximum. Furthermore, productivity was achieved by ensuring that each vehicle load was full and the maximum number of trips was made per day.

5.16 Notification of Delays

Furthermore, the communication between the client and service providers regarding delays in the collection of garbage by the private companies was vital in determining the effectiveness in the performance of garbage collection. The graph below represents the response to the question 'are you notified by the garbage collecting company when there is a delay in the collection?'

Figure 5.14 Notification of the Delay in Collection of garbage



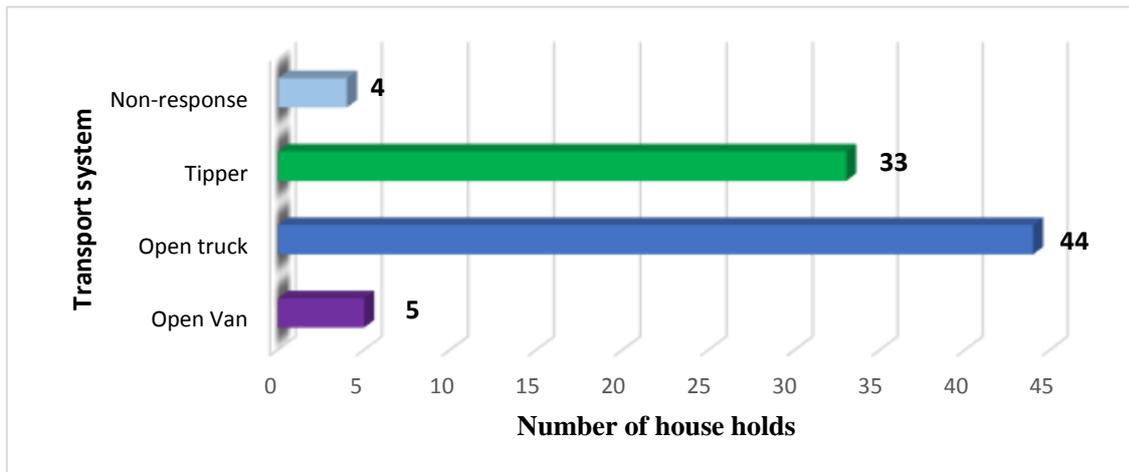
(Source: Field Data)

From the graph above, 45 out of 90 representing 50 per cent of the respondents confirmed that they are notified whenever there is a delay in garbage collection and 35 out of 90 representing 39 per cent said they were not notified. The responses reveal that effectiveness is exhibited when it comes to communication between the waste manager and the garbage generator. However, one key informant mentioned that “*some clients change their mobile numbers and it becomes difficult to notify them of the delay of garbage collection*”. Failure to communicate lead to the ineffectiveness of garbage collection as the residents would have no idea as to why the private company delayed to collect the garbage.

5.17 Mode of Transport Used for Collection of Garbage

The determinants of the performance of a company are grounded in its efficiency. Among the factors that determine efficiency include type and condition of transport used to carry out its operations, its staff and policy among other things. Thus, in order to determine the performance of the private companies which collected solid waste, respondents were among other questions asked about the common types of transport used by private companies for the collection of garbage.

Figure 5.15 Common Mode of Transport Used



(Source: Field Data)

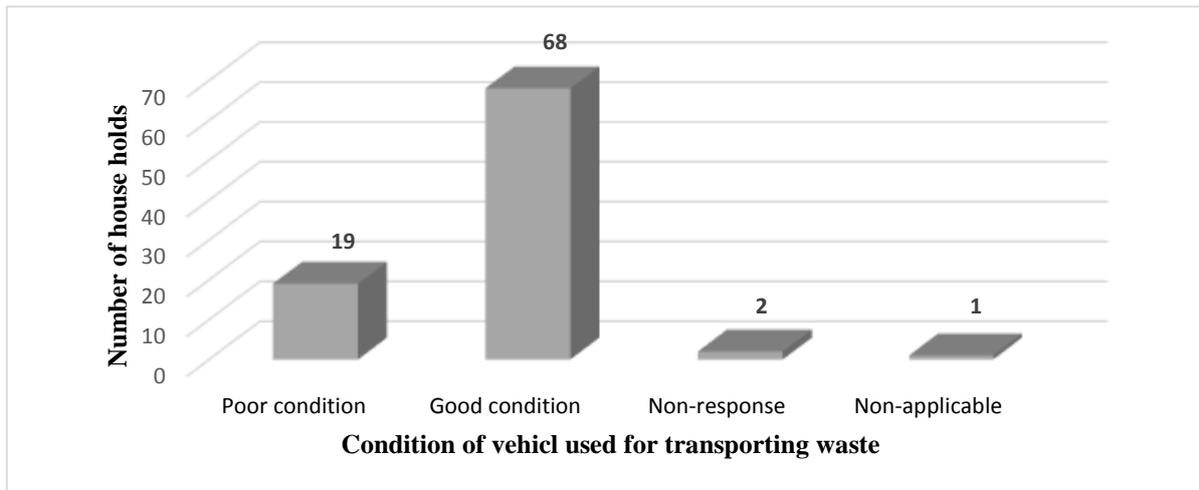
The graph above shows the range of responses on the commonly used transport system to collect and transport garbage from households. The graph indicates that 44 respondents stated that an open truck is used to collect their refuse while 33 mentioned that a tipper is used to collect waste from their homes. The number of respondents which indicated that an open truck is used to collect waste in their homes by the private waste collecting company is alarming. As earlier alluded to, garbage is expected to be handled once, thus the use of an open truck compromises the quality of service and health standards.

One of the key informants from the private company collecting garbage mention that one of the challenges faced is” *lack capacity in terms of fleet and equipment*”.

5.18 Condition of Vehicles used for Garbage Collection

Another determinant used to assess the performance of the private companies which collect garbage in Lusaka is the condition of the vehicles used.

Figure 5.16 General Condition of Transport System



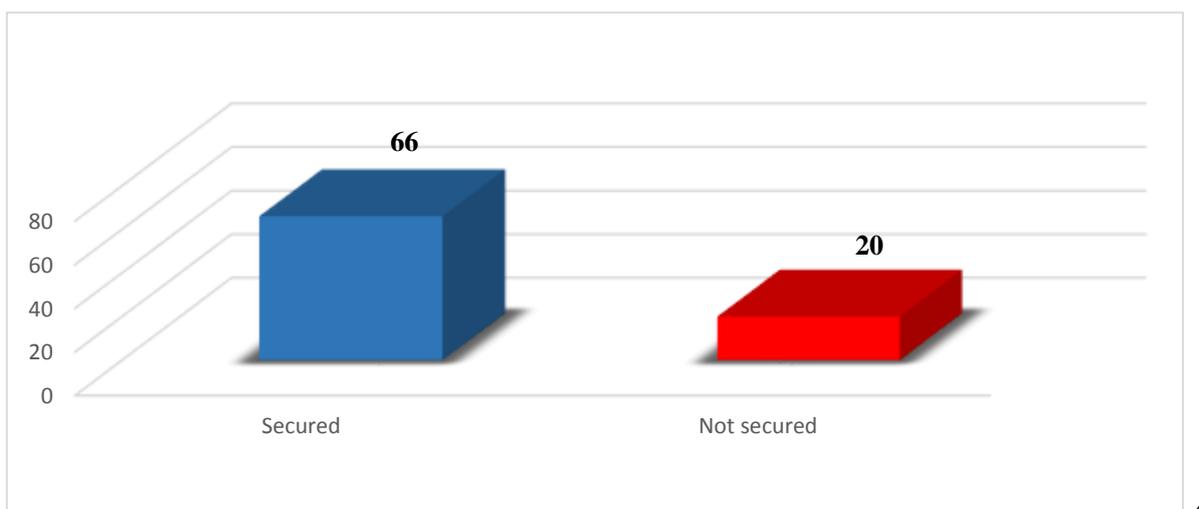
(Source Field Data)

From the graph above, 68 respondents representing 75.5 per cent responded that the vehicles used for transporting garbage are in good condition while 19 respondents representing 21.1 per cent said that the vehicles are in poor condition. From the previous graph, it is observed that even though the transport used is in good condition, it is not suitable for the task at hand.

5.19 Condition of Garbage during Transportation

Thus, the inquisition on whether the garbage is well secured to avoid spillage during transportation revealed the following results as presented in the graph below.

Figure 5.17 Condition of Garbage during Transportation



Source: Field Data)

Table 3.2 Condition of Transport System and Condition of Waste During Transportation

| condition of waste during transportation | | | | |
|--|----------------|---------------|-------------------|-----------|
| Condition of transport system | Responses | waste secured | waste not secured | Total |
| | poor condition | 5 | 14 | 19 |
| | good condition | 61 | 6 | 68 |
| | non response | 0 | 0 | 2 |
| | not applicable | 0 | 0 | 1 |
| | Total | 66 | 20 | 90 |

(Source: Field Data)

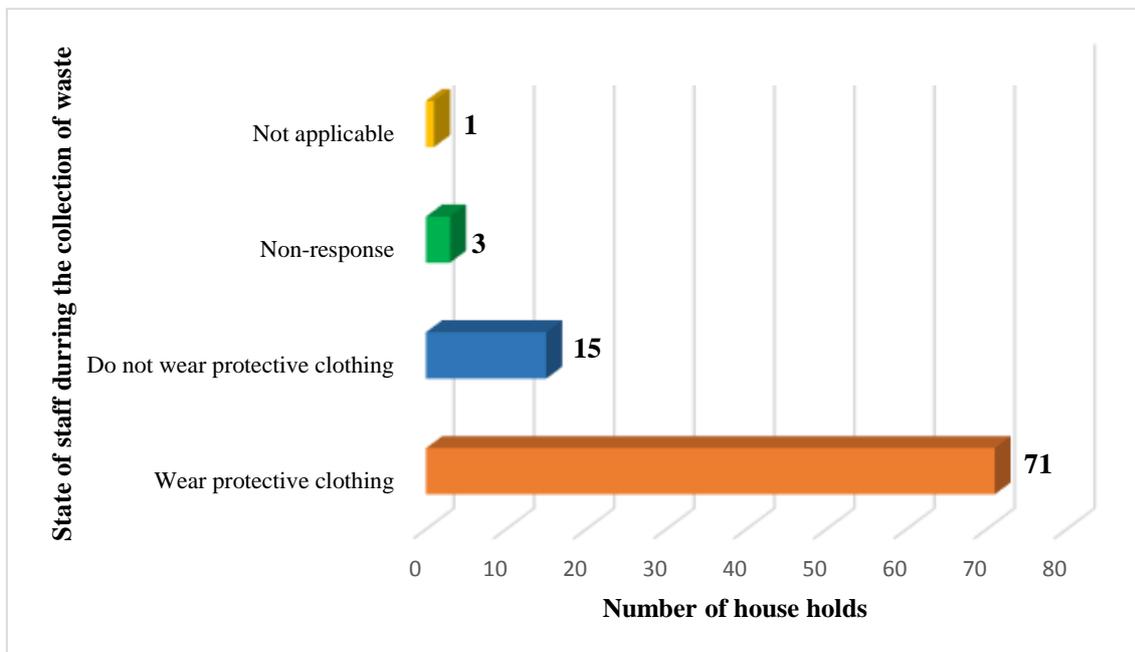
The above table indicates that 61 of the respondents stated that the garbage was well secured and the transport was in good condition. However, the earlier finding revealed that the private companies used open trucks. This means that although the vehicles were in good condition they were not the recommended transport required for garbage collection.

Some of the key elements considered in the capacity assessments were the type of machinery and equipment possessed by a company intending to be engaged in the garbage collection business. Transport was a key factor in the relationship between local government and the service provider. The acquisition of relevant transport depended on the period of duration of the contract. According to Coad (2003), the agreement was to be sufficient to allow amortisation of the equipment that was needed to execute the contract in an effective way. If the recommended trucks were needed, the duration of the contract was to be five to seven years so that the loans could be repaid.

5.20 Clothing for Garbage Collectors from Private Companies

The third key performance determinant was the protective clothing during the handling of garbage and the question ‘Do the staff who collect waste wear protective clothing’ was asked. The responses are recorded below.

Figure 5.18 Protective Clothing Worn During Garbage Collection



(Source Field Data)

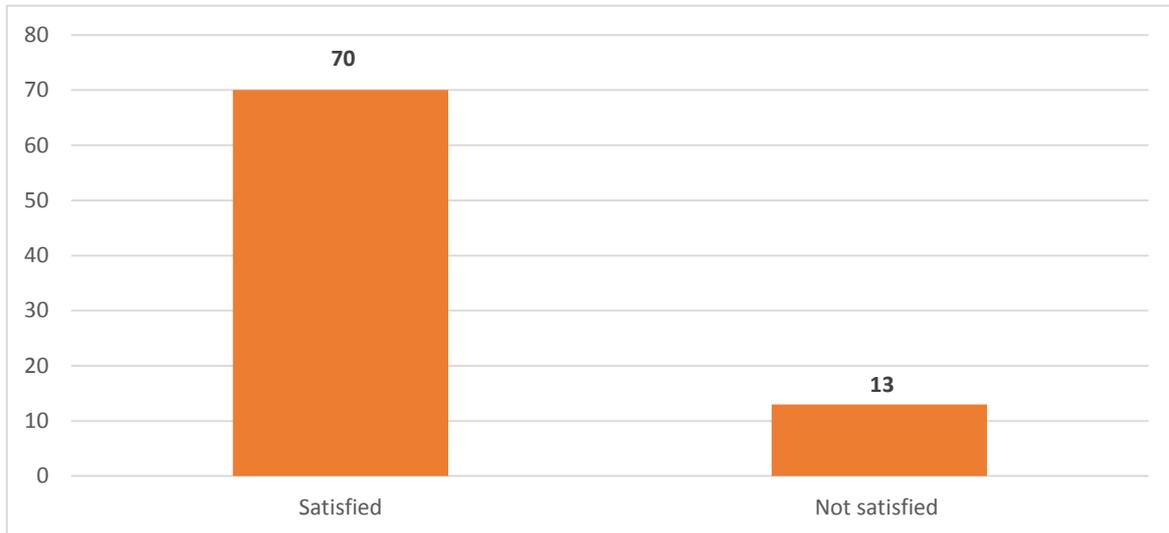
Out of the 90 respondents, 71 representing 78 per cent confirm that staff who collected garbage from their households wore protective clothing while 15 representing 16.6 per cent reveal that staff from the private companies do not wear protective clothing. The workers who did not wear protective clothing were highly prone to cuts from sharp objects and also exposure to bacteria and toxins. This becomes more evident as the private companies used open trucks as opposed to automated vehicles such as tippers and compactors.

5.21 Satisfaction with Service Provision

Besides the various services provided by the private garbage collecting companies and conditions that are attached to them, it is also important to find out the satisfaction of the respondents in order to assess the performance of these service providers. Henceforth, the

question asked is ‘are you satisfied with the services provided by private companies collecting garbage from homes?’ The graph below represents the findings.

Figure 5.19 Satisfaction with service provision



(Source: Field Data)

The results showed that 70 out of the 90 respondents were satisfied while 13 were not satisfied and the rest did not respond.

5.22 Conclusion

The performance of the private companies is garbage collection in the four waste management districts where the study was undertaken is questionable. The study reveals that the LCC has not done enough to sensitize members of households in the waste management districts on the policies that govern the operations of the private companies collecting garbage. The mode of acquiring information needs to be improved. The study reveals that six respondents have received door to door sensitization whilst 72 respondents do not have the required information. Information is vital as it leads to changes in habits. The researcher is of the view that the LCC should consider partnering with stakeholders who have vibrant channels of disseminating information.

The research has also established that despite the existing policy guidelines being in place, clients are observed to be defaulting and the most common default is failure to pay for the services provided by the private companies collecting garbage. With regard to providing

recommended receptacles the research revealed that the private companies are not providing clients with the receptacles .

Further it was observed that open trucks are used to transport garbage from households to the dumpsite. In terms of the health and safety of the workers who collected garbage 16.6 percent where observed not to be wearing protective clothing. However, it was observed that the clients in the waste a management districts were satisfied with the service being provided by the private companies.

The researcher noted from the findings that the private companies are involved in garbage collection for the sole purpose of making a profit. The existence of the policy guidelines related to the operations of the private companies has been highly compromised by the need of the private company to make a profit and performance of the companies is highly compromised.

This discussion is the basis for the conclusions and recommendations relating to the effectiveness of private garbage collecting companies presented in the next chapter.

CHAPTER SIX: SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter discusses the conclusions and recommendations of the study. The main objective of this study was to evaluate the effectiveness of garbage collection by private companies in Lusaka. In order to achieve this objective, various literature were reviewed to get the insights of the diverse thoughts on the subject as well as to guide the explanations of the findings of the results. The studies conducted by Ntambo, Salimu, Mwansa (2015), Pasi (2014), Bosco (2015), Sikazwe (2004), Munthali (2007) and Chaampa (2014) Kwarteng and Dijk (2008), Coad (2003) and (2005), Kaseva and Mbuligwe (2003), Palczynski (2002), on waste management in selected areas are the major fields of consideration as the three specific objectives were analysed individually. The literature reviewed was compared, where necessary, to the findings of this study.

6.2 Summary of Conclusions

The study revealed that in existence are the environmental protection and service standards and enforcing franchise agreements. The findings established that the legislation governing garbage collection and have aspects of environmental protection standards are the Lusaka City Council (Municipal Solid Waste) By-laws of 2004, the Local Government (Solid Waste Management), Regulations of 2011, Environmental Management Act of 2011 and the Public Health Act Cap, 295. The enforcing agreements are provided for in the Collection and Transportation of Solid Waste Franchise Agreement. The roles of various stakeholders are covered in the above-mentioned legislation and policies. In addition, the establishment of the Waste Management Unit is outlined. Further, issues of applicable fees, inspections, handling of complaints and prohibitions within the boundaries are enshrined in the above documents. The findings on the policy guidelines revealed the responsibilities of the Lusaka City Council in ensuring that citizens do not dump garbage indiscriminately and subscribe to a private company to collect garbage in their specific house holds.

The Environmental Management Act of 2011 provides for the Lusaka City Council to collect and dispose or arrange for collection of all household waste in accordance with the Act. It also prioritises the recovery, reuse or recycling of waste and provides for treatment and safe disposal of the waste. The Zambia Environmental Management Agency issues licenses to any transporter of waste and provides technical advisory services to waste operators. The findings

established that the franchise agreements contract is a document through which private companies are engaged and they are expected to uphold the franchise conditions. The contract comprises 24 articles covering issues of startup, termination and disputes. Other articles outline contract administration, laws and regulations just to mention but a few.

The study has identified the policy guidelines related to the operations of the private companies in garbage collection in the four Waste Management Districts in Lusaka on the basis of how the private companies are broad on board to collect garbage and also the minimum standards required before engagement of the company. Other issues considered were the interval of reviewing contracts the number of households serviced by the private companies and adherence to laid down procedures. The last but not the least theme under the first objective discussed was the frequency of inspection visits by Lusaka City Council. Lusaka City Council has partnered with the private companies to manage garbage in the waste management districts. However, the study has revealed that although the policy guidelines are in place to regulate the garbage collection system, there is indiscriminate dumping of garbage in surrounding areas where the companies have been awarded contracts.

The research established that collection of garbage by the private companies is undertaken in conventional housing and commercial areas in Lusaka. The Lusaka City Council has partnered with the private companies to provide garbage collection services. The city is divided into 16 waste management districts and in all the districts, except one, which includes the central business district, garbage collection is outsourced through the franchise contract. The research established that the private companies are brought on board by means on bidding through the newspaper tenders. It was observed that minimum capacity and capacity assessments are carried out before engaging the private companies.

From the findings, all the private companies collecting waste in the waste management districts had completed formal contracts which covered a period of more than one year. These contracts were reviewed after one year. Capacity assessments were carried out before engagement. This was typical of the developed world setting where an environment for acquisition of loans was conducive as Coad (2003) stressed.

The findings revealed that the focus of the capacity assessments was on the type of equipment and machinery the company possessed. The researcher observed that routes for

garbage collection were developed by the Waste Management Unit. This was, however, contrary to the Franchise contract. According to the findings, the companies serviced more than 16 houses in the specific waste management districts and they adhered to the laid down procedures and those that did not adhere had their contract terminated as a penalty. The two companies observed that the By-laws were adequate for defaulting clients and they stated that the common type of default was a failure to pay for a service rendered. From the findings, the Lusaka City Council staff carried out inspections every after one month contrary to the By-laws as inspections were expected to be carried out on a daily basis which comprised the effectiveness of the private companies involved in garbage collection. This is because illegal collectors found can not be easily curbed if inspection are carried out on a monthly basis.

With regard to the performance the private companies in garbage collection, the study revealed that members of the public in the waste management districts were not aware of the policies governing operations of the private companies in the waste management districts. Information dissemination on the policies by the Lusaka City Council, according to the findings, was not carried out as only 15 out of the 90 respondents received the information. The research revealed that the mode of acquiring information was mainly through the door to door sensitisation although 72 of the respondents in the waste management districts were not aware of the policy guidelines. 43 percent of the residents did not have payment plans whilst 41 per cent had the payment plans in place. The study established that according to the findings and were observed to be paying a minimum of K30 to a maximum of K70 in the waste management districts. The residents requested for a reduction of the fees. Majority of the clients defaulted by not paying the prescribed fees and they were reported to the Council by the private companies. Findings revealed that garbage was collected but not stored in the prescribe receptacles as the companies did not provide the residents with the receptacles. The frequency of garbage collection was once a week and the residents were happy with the schedule since an increase in the frequency of collection of garbage would lead to the increment in tariffs. Clients were notified in case of delay although some could not be notified due to challenges of constanly changing phone numbers. The common mode to transport used to collect waste was the open trucks which were in good condition although they were not the recommednded mode of transport. Thw research established that garbage was well secured when being transported.

As stated by Coad (2005), it was also estimated that it was not known where almost a third of the collected waste was dumped as a considerable percentage would be spilt on the way due to lack of appropriate and 'in good' condition transport system as presented by the results of the survey. The majority of the vehicles used were open trucks and the staff collecting garbage, were seen to be wearing protective clothing. The findings revealed that despite the challenges mentioned the residents were satisfied with the service. However, the current private companies collecting garbage are not effective in view of the existing conditions with regard to enforcement of policy guidelines and with regard to the findings.

Solid waste management is of great importance in ensuring environmental sustainability and yet remained most compromised when it came to successfully implementing the laid down policy guidelines. Unfortunately, public institutions in developing countries, Zambia included, failed to provide what was required to ensure a proper and sustainable transfer to the private sector. At best, the government promulgated a Municipal Solid Waste Law, but it was rarely properly enforced, as appropriate systems of monitoring and control, along with relevant skills at respective government and municipal levels are not established. As a result, solid waste management is a great challenge that the country faced especially in urban districts and particularly, Lusaka city. Since waste generation, collection, disposal and institutional and infrastructural capacity for management of waste are the critical issues in waste management, it was important for the authorities to solicit adequate funds to sensitize, monitor and involve a lot of private sector waste management companies as observed from successful countries such as South Africa.

Sustainable and effective Public-Private Partnership for solid waste management would be achieved if both the public and private sector adopt a new way of doing business. It is difficult for public bodies such as the Lusaka City Council to change their traditional role of service provider to a new role of service partner and regulator. Conducive policies and institutional framework are necessary for the above changes to take place.

6.3 Recommendations

6.3.1 Policy Issues

The inadequacies of many local authorities can be addressed if collaboration between the public sector and the private sector is established by creating Public-Private Partnerships (PPP's). (Africa Insight Journal, 2005).

There are a lot of things that can be emulated from the other countries that have been successful in waste management in the SADC region. The most appropriate way to effectively manage waste is through the involvement of the private sector, the general public and the municipal councils in the disposal process.

Besides, having developed a strategic plan for solid waste management, it is recommended that the LCC implements and enhances enforcement of policy guidelines through improved management and service delivery and partnership with the private sector. Furthermore, there is a need to have an established database which contained the various households in the city to ensure that all residents were affiliated to legally recognised private waste collecting companies. The LCC further needs to inform residents of each particular waste management district of the specific company that has been formally registered to collect garbage in order to curb illegal contractors.

Secondly, it is recommended that members of the public in the Waste Management Districts should be educated on the policy guidelines regulating the operations of private companies collecting garbage. The Lusaka City Council has to increase the budgetary allocation of awareness programmes to the general public. An informed population is key to achieving any desired results and thus informing and educating the general public on the existing policies on waste management will be a big step to achieving sustainable waste management. It is, thus, important that the following are put into consideration.

Thirdly, there is need to improve the organisational capacity and regulatory framework of the authorities (municipal council). This would enhance adequate monitoring and supervision in the process of waste collection and disposal.

In order to attract successful private investment in solid waste management, local authorities need to establish a strategic framework tailored to local conditions and based on consultation

with all stakeholders. The project is supposed to take into account the towns' socio-spatial structure, the type of waste involved, the resources available, institutional setting, and whether those involved are from the formal or informal sector (Private Sector Development - Propaco's Magazine, 2012). Adopting European standards is often counter-productive for local authorities lacking the necessary financial and technological resources. For a waste management policy to be sustainable, a pragmatic, customised and progressive approach is essential and preferable to applying high standards from the beginning. More generally, a clearly defined regulatory framework enabling companies to compete equitably will be a prerequisite for effective private sector involvement. In the case of the Lusaka City Council, issues of illegal private companies collecting waste will be curbed. Ultimately, local authorities need to have a workforce and sufficient resources to be able to monitor and control contracts and more generally, implement a consistent public policy (ibid). Once the LCC engages private sector in garbage collection its role should shift to delegation and monitoring. Members of the public have to be sensitised through community campaigns on good practices of waste disposal. The effectiveness of the private companies collecting garbage will be achieved through the general public having basic knowledge on the obligations of the Lusaka City Council and the private companies involved in garbage collection.

The public agencies should engage in this education with other stakeholders primarily through initiatives based in the departments of health and education. School children should be given instructions in sanitation which could include references to the handling of human and household wastes. Community service organisations, in collaboration with the health departments and international health organisation such as the World Health Organisation, should conduct training seminars on sanitation and waste handling.

Garbage disposal and the processes involved should be clearly outlined and disseminated to members of the public. The general public needs to be aware of the penalties of not adhering to the regulations enacted by the Central Government through Parliament.

Fourthly, private companies collecting garbage require financial support and technical assistance from the council to enhance cost-recovery so that they could carry out their obligations of providing durable refuse bags to the clients in line with formal contracts. It is also recommended that the Ministry of Local Government and Housing puts in place a

deliberate programme of land allocation to private companies involved in the garbage collection with the help of the Ministry of Lands. This will reduce the private companies' expense incurred through renting office and parking space. The Zambia Revenue Authority (ZRA) has to be incorporated in the process of purchasing state of the art equipment by the private companies involved in collecting waste by introducing duty-free rates on every purchase of the recommended vehicles and machinery in order to alleviate the taxation on imported equipment. This will result in the growth in the number private companies being involved in collecting waste and assist them to operate efficiently and effectively. Additionally the companies will easily be able to increase their fleet on a yearly basis.

Fourthly, it is recommended that the contract for the engagement of the private companies collecting waste be reviewed to delegate the power for prosecuting defaulting clients to the private sector service provider. This will be achieved if the Lusaka City Council identifies credible private companies involved in collecting waste and offers them support.

Fifthly, it is recommended that recycling, reusing and reducing on the packaging are some of the measures to be considered and introduced. Most of the households generate waste which includes kitchen refuse and packaging materials. It is, thus, important for the authority to identify materials that can be recycled and also educate the households on the importance of reusing, recycling and reducing packaging to avoid a high rate of unnecessary garbage generation. The findings revealed that the private companies collecting waste do not provide refuse bags to the clients receiving their services. It is recommended that the private companies collecting waste should provide refuse bags to the clients and separation of garbage is to be encouraged by the private companies collecting garbage.

Sixthly, it is recommended that the Lusaka City Council (WMU) should re-demarcate the waste management districts as some were too vast to be managed by the private companies. This would reduce challenges of identifying the actual clients of individual households being serviced by the private companies. The vastness of some waste management districts led to illegal private companies collecting waste yet these companies were not licensed by ZEMA. It is also recommended that ZEMA should only issue licenses to trucks and companies that were contracted by the Lusaka City Council.

Lastly, and not the least, is the need to summarise and simplify the laws and regulations as well as other policies that regulate the waste management and making them available to all the citizens so as to have an informed citizenry. This coupled with other initiatives such as the ‘KEEP CLEAN’ campaigns and placing of refuse bins at various locations could keep the country clean and environmentally sustainable. The Members of Parliament (MP’s) and the Ward Councillors are expected to play a leading role in this campaign. Deliberate programmes of awarding MPs’ with the cleanest constituencies or wards should be put in place whilst the MP with the dirtiest constituency was to be penalised by having their monthly Parliamentary allowance reduced by 50 per cent.

6.4 Areas of Future Research

The study of garbage collection is a vast topic that needs further research. The researchers proposes that future research should be conduct on the following topics;

- Recycling, reusing and reducing on the packaging should be considered for further research. Most of the households generated garbage which include kitchen refuse and packaging materials. It is, thus, important for further research to be undertaken by communities in identifying materials that can be recycled and also educate the households on the importance of reusing, recycling and reducing packaging to avoid a high rate of unnecessary waste generation.
- Researchers should conduct a survey of identifying total illegal collectors of garbage in waste management districts who are unable to formally register for garbage collection and disposal and provide them with skills on recycling, reusing.
- Research on how the Lusaka City Council can be empowered to manage PPP contracts should be carried out.
- Finally, effective collaboration between the public and private sector needs to be clearly outlined.

BIBLIOGRAPHY

- African Institute of South (2005) "Waste Management." *African Insight Journal*, 20-22.
- Agboje, I. A, Adetola Adeoti, and Irhivben B. O. (2014)"Performance Assessment of Solid Waste Management Following Private Partnership Operations in Lagos State Nigeria." *Issues of Assessing Performance Journal of Waste Management*, 1-31.
- Amgyaenmang, O.A., Chirwa, B., and Muya, M. (1997) *An Environmental Profile of Greater Lusaka Area*. Lusaka: Lusaka City Council,.
- Bennet, E. (1998) *Private Cooperation in Delivery of Urban Infrastructure Services (Water and Waste)*. Lima: Yale/UNDP.
- Bosco J. N. (2015) *An Ethical Evaluation of Awareness and Attitudes regarding the use and disposal of plastic Bags in Lusaka Urban*. Masters Degree. University of Zambia.
- Brooks C. R (2006). *Privatization og Government Services, An Overview and Review of Literature*. Springfield IL.
- Bwalya S N. (2013.)*Effectiveness of Contracting Out of Solid Waste Management: A case Study of Lusaka*. Masters Degree Dissertation. University of Zambia
- Chaampa, V. (2014)"*An Assessment of Environmental Awareness on Sustainable Solid Waste Management in Lusaka: A Case of Kaunda Square Township*." Masters Degree, University of Zambia.
- Chileshe, M. L. "*The Case of Lusaka, Zambia*." Institute of Economic and Social Research, n.d.
- Coad, A. (2005) *Private Sector Involvement in Solid Waste Management- Avoiding Problems and Building Success*. Eschbom: Deutsche Gesellschaft Fur,.
- Coad Adrian, Cointreau-Levin S. (2000) "Private Sector Participation in Municipal Solid Waste Management." St. Gallen Switzerland: SKAT.
- Creswell W. J (2009). *Research Design- Qualitative, Quantitative and Mixed Method Approaches*. Lincoln, Sage Publishers.

Danida. *Zambia Case Study.* (2010) *Danida Evaluation of Programmatic Approaches to Support for the Environment in Africa.* Lusaka.

Engineering and Consulting Firms Association Zambia: Report of the study on National Development Growth Center in the Southern Africa March, 2006, Japan.

Krogstrup E, Ling C. K. M, and Nash A. K. A. (2003) *Household Hazardous Waste Management and Stakeholder Involvement in Kuala Lumpur.* Copenhagen: University of Roskilde.

Gidman P, Blore I, Wrenteen J, and Shuttenbelt P. (1995) Series 4, "Public-Private Partnership in Urban Infrastructure Services." *Development Workshops.*

Hammami, M, Jean-Francois R, and Etienne B. Y. (1990 to 2003.) *Determinants of Public-Private Partnerships Infrastructure.* IMF Working Paper/06/99, International Monetary Fund,

Her Majesty's Stationery Office. (2000) *Public-Private Partnerships, the Government's Approach.* London: The Stationery Office,.

Herpen, E.G.W., and Van, B. (2002) *Public-Private Partnerships, the Advantages and Disadvantages Examined.* Association for European Transport,.

Kaseva M. E and Mbuligwe S. E. (2003) *Appraisal of Solid Waste Collection Following Private Involvement in Dar-es-Salam City Tanzania.* PhD Thesis, Dar-es-Salam: Elsevier Limited,.

Kwarteng O. S. (2011) "Private Sector Involvement in Urban Solid Waste Collection." CRC Press/Balkema,.

Lusaka City Council. (2003) *Strategic Municipal Solid Waste Management for Lusaka City.* Lusaka:

Lusaka City Council/Waste Management Unit. (2004) *The New Waste Management Plan for Lusaka.* Lusaka.

Lusaka City Council and Environmental Council of Zambia (2008) "Lusaka City State of the Environment Outlook Report." LCC and ECZ.

- Meine D. V P, and Kwarteng S. O.(2007) "Urban Management and Solid Waste Issues in Africa." *A Contribution to the ISWA World Congress in September in Amsterdam*, pp 221-225.
- Middleton N. (2008) *The Global Casino. An Introduction to Environmental Issues*. United Kingdom: Hodder Education,.
- Munthali B. J. (2007) "Community-based Solid Waste Management Strategies for Kamanga Compound in Lusaka.". Masters Degree Dissertation. University of Zambia.
- Mwansa M. (2015). *An Ethical Assessment of Waste Management at Great East Road Campus of the University of Zambia*. Masters Degree Dissertation. University of Zambia.
- Ntambo S. B. (2013). Effectiveness of Contracting out Solid Waste Management. A case of the city Lusaka. Masters Degree. University of Zambia.
- Palczynski, Richard J. (2002) *Study on Solid Waste Management Options for Africa*. Project Report, Canada.
- Pasi M. (2014). An Evaluation on the Impact of Reducing Central Government Grants on Solid Waste Management. A case study of Kabwe Municipal Council. Masters Degree Dissertation. University of Zambia.
- Pelekamoyo G. M (1997) Local Autonomy and Central control in Zambian Urban Authorities. Masters Degree Dissertation University of Zambia.
- Pongra'cz E. (2002). Re-defining the Concepts of Waste and Waste Management: Evolving the theory of Waste Management". Masters Degree Dissertation.
- Private, Sector Development Proparco's. October 2012, Magazine No.15.
- Reuters C and Maselaganye P. M. (2016). Public – Private Partnership Conceptual Framework and Models for Funding and Financing of Water Services Infrastructure in Municipalities from Selected Provinces of South Africa. ISSN Water SA Journal Vol. 42 No. 2, pp291-305

- Sakala R and Chanda D. (1999). *Poverty Eradication, the Zambian Experience*. Lusaka. Sentor Publishing.
- Sikazwe T. (2004) "A Study of Solid Waste Management in Kaunda Square, Lusaka Urban." Bachelors Degree. University of Zambia.
- Technical Handout, International Labour Organization. (September 2001) "Start Your Waste Collection Service." Sustainable Lusaka Programme,.
- UN-HABITAT. (1989) *Solid Waste Management in Low-Income Housing Projects: The Scope for Community Participation*. Nairobi.
- UN-HABITAT. (2003) Volume 9. No. 3. Nairobi Kenya
- UN-HABITAT (2007). *Lusaka Urban Profile: Participatory Slum Upgrading Programme in African, Carribean and Pacific Countries*. Nairobi.
- United Nations. (2008) *Guidebook on Promoting Good Governance in Public-Private Partnerships*. New York and Geneva: United Nations,.
- United Nations, Economic and Social Council. (2009) "African Review Report on Waste Management." *Six Session of Committee on Food Security and Sustainable Development*. Addis Ababa: United Nations,.
- United Nations, Environmental Programme. (2005) *Solid Waste Management (Volume II: Regional Overviews and Information Sources)*. California: CalRecovery Incorporated.
- Whiteside W. A. (1989) *Economy- Industrialization and Investment Incentives in Southern Africa*. South Africa: James Caurry Publishers,.
- Central Statistics Office (2012) *2010 Census of Population and Housing: Population Summary Report*.
- The Local Government (Solid Waste Management) Regulations, 2011
- The Environmental Management Act, 2011.

"The Lusaka City Council (Municipal Solid Waste Management) By-laws." *Statutory Instrument No. 91. of 2004.*

The Public Private Partnership Act of 2009.

The Lusaka Times (27th July, 2013).

APPENDICES

APPENDIX A: COVERING LETTER FOR QUESTIONNAIRE

THE UNIVERSITY OF ZAMBIA

SCHOOL OF HUMANITIES & SOCIAL SCIENCES

DEPARTMENT OF POLITICAL & ADMINISTRATIVE STUDIES

Dear Sir/Madam,

RE: STUDY ON EFFECTIVENESS OF GARBAGE COLLECTION BY PRIVATE COMPANIES: A CASE STUDY OF LUSAKA.

I am a student from the University of Zambia in the School of Humanities and Social Sciences, Department of Political and Administrative Studies pursuing a Master of Public Administration Degree.

I am kindly asking you to participate in the above captioned study. It is specifically meant:

1. To evaluate the effectiveness of garbage collection by private companies in Lusaka.
2. To analyse the policy guidelines related to the operations of private companies in garbage collection.
3. To describe the processes involved in the disposal of garbage by the private companies in Lusaka.
4. To assess the performance of the private companies that collect garbage in Lusaka.

You have been randomly selected to participate in this study. Though you have been randomly selected to participate, your participation is entirely on voluntary basis. You will, however, greatly help me by providing the information requested for as this will enable me to successfully undertake the study and fulfil the requirements for the award of a Master's Degree in Public Administration.

Instructions

1. Please tick [✓] or circle the appropriate answer to the question. Where you are required to write, please do so in the spaces provided (you can as well write on the reverse side of the paper or any convenient additional paper).
2. All the information you will provide is purely for academic purposes therefore, provide genuine information and ensure that all questions are carefully answered to allow for a successful study.
3. Full confidentiality will be maintained. You are, therefore, advised not to write your name or anything else apart from the information requested for.

Your cooperation is highly appreciated.

For official use only

Questionnaire No:

...../...../2014

Date:

APPENDIX B: QUESTIONNAIRE FOR KEY INFORMANTS

SECTION ONE. BACKGROUND INFORMATION (Please tick \checkmark or circle where applicable)

Q1. What is your gender?

- 1. Female []
- 2. Male []

Q2. Name your organisation.

Q3. What is your age?

- i. 20 to 24 years
- ii. 25 to 29 years
- iii. 30 to 34 years
- iv. 35 to 39 years
- v. Above 40 years

Q4. Educational level

- i. Grade 9 and less
- ii. Grade 12 school leaver
- iii. Tertiary
- iv. None of the above

Q5. What is your position in the organisation?

- (a) Senior management
- (b) Middle management
- (c) Other

specify.....

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SECTION B. POLICY GUIDELINES RELATED TO OPERATIONS OF PRIVATE COMPANIES INVOLVED IN GARBAGE COLLECTION

Q6. Briefly explain how the private companies were introduced in garbage collection?

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Q7. Describe legislation/policies governing the operations of private companies involved in garbage collection?

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Q8. From the list below please tick the appropriate contract prerequisites/requirements which are followed before a private company gets involved in garbage collection.

1. Type and number of equipment/machinery owned by a private company
2. Interest of the private company in waste collection
3. Qualification and number of staff
4. Management of vehicle maintenance
5. Planning of collection operations
6. Knowledge of sanitary landfill operations
7. Labor management
8. Capital investment
9. Standard of service

Q9. How are the private companies brought on board in garbage collection?

1. Single sourcing
2. Bidding through newspaper tenders
3. Other

Specify.....
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Q10. What selection criteria is used before the companies begin operating in garbage collection?

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Q11. Do you carryout capacity assessment before engaging the private companies?

1. Yes
2. No.

Q12. If yes or no to question 11, briefly explain your answer.

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Q13. What documents are used to engage a private company to collect garbage?

1. Oral contract
2. Formal contract

3. Other

specify.....

Q14. What is the duration of the contracts for the private companies that collect garbage?

1. Less than six months

2. Six months to one year

3. One year and above

4. Other specify.....

Q15. In what intervals are the contracts for private companies collecting garbage reviewed?

(a) One month to six months

(b) Six months to one year

(c) One year and above

(d) Other, specify.....

Q16. Do the private companies adhere to the laid down regulations/rules for collecting garbage?

(a) Yes

(b) No

Q17. If no to question 16 state the penalty given to the companies that do not adhere to the regulations/rules.

Q18. Why did the government introduce the public-private companies in waste management?

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Q19. Are there benefits associated to engaging the private companies in collecting garbage?

(a) Yes

(b) No

Q20. State the reason for your answer in question 19.

Q21. State the office which is responsible for developing routes for garbage collection.

Q22. Specify your roles in garbage collection.

SECTION C: PROCESSES INVOLVED IN THE DISPOSAL OF GARBAGE BY PRIVATE COMPANIES

Q.23. Do private companies have stated minimum standards which guide their operations?

1. Yes

2. No

3. Not sure

Q24. If yes to question 23, briefly explain the minimum standards.

Q25. Do the private companies provide households with refuse bags for garbage storage?

- 1. Yes
- 2. No
- 3. Not sure

Q26. Is garbage collected when it is not stored in the prescribed bags?

- 1. Yes
- 2. No

Q27. If no to question 26 what follow up action is taken and by whom?

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Q28. Is there a specified designated dumpsite for garbage disposal?

- 1. Yes
- 2. No

Q29. How many vehicles should private companies collecting garbage have?

Q30. What is the condition of the vehicles of the private companies?

1. Poor condition
2. Good condition

Q31. How much do households pay for garbage collection to the private companies?

Q32. Which office is in charge of collecting payments?

Q33. Do you have clients who delay or default in paying their prescribe fees?

1. Yes
2. No

Q34. If yes to question 33, what is the penalty fee for households that delay or default in the payment of fees for garbage collection?

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Q35. Do you receive complaints from clients on delayed garbage collection?

- (a) Yes
- (b) No

Q36. If yes to question 35, how are the complaints attended to and how is feedback given?

- 1. Less than a day
- 2. One day to five days
- 3. One week or more

SECTION D: PERFORMANCE OF THE PRIVATE COMPANIES COLLECTING GARBAGE

Q37. What type of vehicles do the private companies use to collect garbage?

- (a) Open truck
- (b) Open van
- (c) Tipper

Q38. What is the status of the vehicles owned by private companies collecting garbage?

- 1. Poor condition
- 2. Good condition

Q39. If the status is poor, explain why?

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Q40. How many households are served by the private company collecting garbage in the district?

- 1. One to five
- 2. Six to ten

- 3. Eleven to fifteen
- 4. Sixteen and more

Q41. Do the private companies experience households which default in terms of payment for the service provided?

- 1. Yes
- 2. No

Q42. If yes to question 41, what is the average number of defaulters and how do you handle them?

Q43. Are you required to have a specific number of staff as private Companies involved in garbage collection?

- (a) Yes
- (b) No

Q44. If yes, what is the maximum number of staff required?

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Q45. Do staff have prescribed protective clothing and tools for garbage collection?

- (a) Yes
- (b) No

Q46. Has there ever been any private company which does not follow the laid down procedures such as adherence to the time table and schedule of garbage collection?

- (a) Yes
- (b) No
- (c) Not sure

Q47. What is the penalty for defaulting Private companies?

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Q49. In your view, are the By-laws adequate for handling defaulting households/companies?

- 1. Yes
- 2. No

Q50. Is there an office which inspects the performance of the private companies?

- 1. Yes
- 2. No

Q51. If yes to question 50, how frequent are the inspection visits?

- 1. Every two weeks
- 2. Every three weeks
- 3. Once a month
- 4. Other

specify.....

Q52. Are there any suggestions on improving the compliance standards of Private Companies involved in garbage collection? If so, briefly state them.

APPENDIX C: QUESTIONNAIRE FOR MEMBERS OF THE PUBLIC

SECTION A: BACKGROUND INFORMATION (Please tick or circle where applicable)

Q1. What is your gender?

- i. Female
- ii. Male

Q2. What is your age?

- i. 15 to 19 years
- ii. 20 to 24 years
- iii. 25 to 29 years
- iv. 30 to 34 years
- v. 35 to 39 years
- vi. Above 40 years

Q3. Educational level

- i. Grade 9 and less
- ii. Grade 12 school leaver
- iii. Tertiary
- iv. None of the above

Q4. Occupation

Q5. Marital status

- i. Unmarried
- ii. Married
- iii. Widow
- iv. Widower

Q6. What is your waste management district?

- i. C
- ii. L
- iii. J
- iv. H
- v. B
- vi. E

Q7. What is your residential area?

Q8. What is the population type of your area?

- i. Low density
- ii. Medium density
- iii. High density

Q9. What is the number of people living in the house?

- i. 1 to 4
- ii. 5 to 9
- iii. Above 10

Q10. What is your status in the household?

- i. Head
- ii. Guardian
- iii. Ordinary member
- iv. Other specify.....

SECTION B. KNOWLEDGE OF POLICY GUIDELINES ON PRIVATE COMPANIES COLLECTING WASTE

Q.11. Are you aware of the policies that govern the operation of private companies that collect garbage in your district?

- i. Yes
- ii. No
- iii. 3. Not sure

Q12. If yes/no, briefly explain your answer.

Q13. Have you subscribed with a private waste company to collect garbage from your home?

- i. Yes
- ii. No

Q14. If yes to question (13), what is the name of the company?

Q15. What is your opinion on the guidelines which regulate collection of garbage?

Q16. In your own view, according to what is listed below, how would you describe the process of subscribing to a garbage collecting private company?

- i. Process is characterised by delays
- ii. Involves travelling long distances

- iii. Requires waiting in queues for a long time
- iv. Too much paper work completion
- v. Process is short and efficient
- vi. Other specify.....

Q17. How much do you pay to the private company for garbage collection and what period does the fee cover?

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Q18. Do you have a payment plan?

- i. Yes
- ii. No

Q19. If yes to question (18) what are the payment terms provided by the private company?

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Q20. Have you received information on laws governing the collection of garbage by private companies from Lusaka City Council?

- i. Yes
- ii. No

Q21. If yes to question (20) how did you receive the information?

- i. Brouchers
- ii. Television

- iii. Radio
- iv. Door to door sensitisation
- v. Other please specify.....

Q22. Do you enter into a formal contract when registering with the garbage collection private companies?

- i. Yes
- ii. No

Q23. Do you follow laid down procedures/rules set by the garbage collection companies?

- i. Yes
- ii. No

Q24. If no to question (23) indicate which rules you have not been following and why?

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Q25. Have you experienced incidences of delayed garbage collection by the private companies?

- i. Yes
- ii. No

Q26. If yes to question (25)

(a) Which office do you report to?

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(b) How quick is the response?

- i. One to five days
- ii. Five to ten days

- iii. Ten days and more

Q27. When you experience delays in the waste company collecting garbage from your home, how long have these delays been?

- i. Less than a day
- ii. One day to one week
- iii. Two weeks or more
- iv. Other

specify.....

SECTION C: PROCESSES INVOLVED IN THE DISPOSAL OF GARBAGE BY PRIVATE COMPANIES

Q28. How do you store the garbage generated in your home before the collection day?

- i. Plastic bag
- ii. Dust bin

Q29. Are you provided with refuse bags for garbage storage?

- i. Yes
- ii. No

Q30. How often are you provided with refuse bags for garbage collection?

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Q31. What is the quality of the material of the refuse bag?

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Q32. How frequent is your garbage collected?

- i. Once a week
- ii. Twice a week
- iii. Three times a week.
- iv. Other Specify.....

Q33. What is your opinion on the frequency of garbage collection and please provide reasons.

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Q34. Are you notified by the waste collecting company when there is a delay in garbage collect?

- i. Yes
- ii. No

SECTION D: PERFORMANCE OF THE PRIVATE COMPANIES THAT COLLECT GARBAGE

Q35. What type of vehicle collects garbage from your home?

- i. Open van
- ii. Open truck
- iii. Tipper
- iv. Other specify

Q36. In general, state the condition of the vehicle used to collect garbage in your area?

- i. Poor condition
- ii. Good condition

Q37. Is the garbage well secured to avoid spillage when it is collected?

- i. Yes
- ii. No

Q38. Do the staff who collect garbage from your home wear protective clothing?

- i. Yes
- ii. No

Q39. What happens when you have not stored the garbage in the prescribed manner at the time the company collects garbage?

- i. Garbage is collected

- ii. Garbage is not collected

Q40. Are you satisfied with the services provided by the private company collecting waste from your home?

- i. Yes
- ii. No

Q41. If no to question (40) briefly explain why?

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Q42. How would you rate the performance of the private company collecting garbage from your home?

- i. Very good
- ii. Good
- iii. Very poor
- iv. Poor

Q43. Do you have any suggestions on improvements in garbage collection in your district, if so explain.

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