



UNIVERSITY OF NAIROBI

DEPARTMENT OF ARCHITECTURE AND BUILDING SCIENCE

SCHOOL OF BUILT ENVIRONMENT

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**PUBLIC PRIVATE PARTNERSHIP IN SOLID WASTE MANAGEMENT:
CASE STUDY OF NAIROBI**

By

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W50/69527/2011

**RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT FOR THE
REQUIREMENTS OF THE MASTER OF URBAN MANAGEMENT DEGREE
IN THE UNIVERSITY OF NAIROBI.**

MAY, 2015




DECLARATION

I hereby declare that this research project is my original work and has not been presented for a degree in any other University

Signed.....*Owiti Akumu*.....

Date.....*19th June 2015*.....

This Research project has been submitted for the degree of Masters of Urban Management with my knowledge as University Supervisor.

Signature..........

Date.....*19/6/2015*.....

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ACKNOWLEDGEMENTS

I thank the Almighty God, with whose care and mercifulness I managed to complete this Master Research Project Report.

I wish to thank most sincerely, my Supervisor, Dr. Owiti K' Akumu for being very committed, supportive and patient with me. I also appreciate his invaluable and unlimited guidance throughout the study. I would also like to thank Professor Jerry Magutu, our Course Coordinator and Architect Erastus Abonyo, our Chairman, for their understanding and continued encouragement.

I acknowledge the support given to me by Mr. Roy Onyango, the Assistant Director of Environment (Solid Waste Department), who accepted to be interviewed on several occasions, provide secondary data and also introduced me to other Key Informants.

I want to thank my beloved parents, Mr. and Mrs. John Ongolo, for their continued support and prayers, and my Sons Andrew, Abel and David for their understanding.

A big thank you to my employer, The Kenya Electricity Generating Company limited, who made it possible for me to undertake the study.

Last but not least, I wish to thank Amaliah, Margaret and my colleagues that I met at the Department of Architecture, each and every one of you impacted me in a special way.

ABSTRACT

Partnerships are believed to have bounced on the scene globally because many nation states failed in providing basic services .In many developing countries, over the few decades, partnership is taking more significant role in provision of services while government ownership has declined. In Nairobi, partnership has been applied in service provision in projects such as rehabilitation of public toilets and running them as SME's, and adopt a light, which lit the streets in both wealthy parts in Nairobi and in the slum areas. This study focuses on Public-Private Partnership (PPP) in solid waste management (SWM) in Nairobi.

Neo- Liberal theory has been used to describe management of public services carried out by the private sector with management changes. New Public Management has provided for a future of smaller, faster-moving service delivery organizations that would be kept lean by the pressures of competition, and that would need to be user-responsive and outcome-oriented in order to survive.

Qualitative research method has been used to get understanding of PPP in SWM. Mainly, secondary data was obtained from past research on SWM in Nairobi and other cities in the world with a view to exploring their experiences in PPP. Primary data was obtained through face to face interviews with key informants and semi structured interview questionnaires with service providers and users to establish why PPP was being implemented in SWM in Nairobi, how it is being implemented and the outcome of its implementation.

The study reveals that introduction of PPP compliments the delivery of SWM services, making it more effective. However, it has been found that if there is no good supportive environment, then the partner has difficulty to manage the waste hence affecting the end product.

TABLE OF CONTENTS

DECLARATION	i
ACKNOWLEDGEMENTS	
ABSTRACT	iii
LIST OF ACRONYMS	ix
LIST OF FIGURES	xi
LIST OF MAPS	xi
LIST OF TABLES	xii
LIST OF APPENDICES	xii
CHAPTER ONE	1
1 INTRODUCTION.....	1
1.1 Background of the Study	1
1.2 Problem Statement	4
1.3 Research Questions	5
1.4 Objectives of the Study.....	6
1.5 Significance of the Study	6
1.6 Scope and Limitation of the Study.....	7
1.7 The Structure of the Report.....	7
1.8 Operational Definition of Terms Used In the Study.....	8
1.8.1 Public Private Partnerships (PPP).....	8
1.8.2 Private Sector.....	8
1.8.3 Solid Waste.....	8
1.8.4 Municipal Solid Waste	9
1.8.5 Solid Waste Management (SWM).....	9
CHAPTER TWO	10
2 LITERATURE REVIEW.....	10
2.1 Public –Private Partnership.....	10
2.2 Composition of Public Private Partnership.....	11
2.3 Why Public Private Partnership?	12
2.4 Fundamentals of PPP	15
2.5 Experiences of Public Private Partnership.....	17

2.5.1	The Lebanon Experience	18
2.5.1.1	Organizational Framework	18
2.5.1.2	Assessment of Solid Waste Collection and Transportation	19
2.5.1.3	Official and Public Perception	19
2.5.2	Accra's Experience	20
2.5.2.1	Competition and Contract Management	21
2.5.2.2	Assessment of Solid Waste Collection and Transportation	22
2.5.2.3	Performance Evaluation	22
2.5.2.4	Official Perception	23
2.5.2.5	Public Perception	23
2.5.3	The Dar es Salaam Experience	24
2.5.3.1	Assessment of Solid Waste Collection and Transportation	25
2.5.3.2	Public Perception	25
2.6	Solid Waste Management System in Kenya	26
2.6.1	Solid Waste Situation in Nairobi City	29
2.7	Policy Framework and Implications	30
2.8	Legal Statutes on Private Public Partnership	33
2.9	Service Contract Option	39
2.10	Summary of Literature Review	40
CHAPTER THREE		42
3	RESEARCH METHODS	42
3.1	Introduction	42
3.2	Case Study Approach	42
3.3	Research Design	43
3.4	The Population and Sampling	43
3.5	Data Collection	44
3.5.1	Methods of Primary Data Collection	45
3.5.1.1	Reconnaissance visit	45
3.5.1.2	Interview with Key Informants	46
3.5.1.3	Interviews with Service Providers	48
3.5.1.4	Interviews with Service Users	48
3.6	Data Analysis and Presentation	49

3.6.1	Data collected from Key informants	49
3.6.2	Data collected from service users	50
3.7	Data Reliability and Validity	50
3.8	Limitations	51
3.9	Ethical considerations	51
3.10	The Case Study Area	51
3.10.1	Location of Nairobi	53
3.10.2	Historical Background and Development of Nairobi	53
3.10.3	Spatial development of Nairobi city	53
3.10.4	Demographics and Employment	54
3.10.5	Nairobi City County Government and Operations	55
3.11	Waste Management Zones in the CBD	58
CHAPTER FOUR	66
4	RESULTS AND DISCUSSION	66
4.1	Introduction	66
4.2	Basic Information	66
4.2.1	Questionnaires Response Rate	66
4.2.2	Years of Residence	67
4.3	Review of PPP in Solid Waste Management in Nairobi	67
4.3.1	Evidence of PPP in SWM in Nairobi	68
4.3.2	Reasons for implementation of PPP in SWM	69
4.3.2.1	Non Collection and Negligence	69
4.3.2.2	Illegal Dumping and Littering	70
4.3.2.3	Congestion	71
4.3.2.4	Finance	72
4.3.2.5	NCC's Performance on SWM	73
4.3.2.6	Political Reason	74
4.3.2.7	Why PPP Model is Suitable/Not Suitable for Nairobi	74
4.3.2.8	Summary of findings on Why PPP is being implemented in SWM	76
4.4	How PPP is being implemented	77
4.4.1	Engagement of Formal Private Service Providers	77

4.4.2	Procurement Process.....	78
4.4.3	Collection of Solid Waste.....	80
4.4.4	Revenue Collection and Contract Management.....	80
4.4.5	Performance Management.....	82
4.4.5.1	NCC’s Perception on Performance Monitoring.....	82
4.4.5.2	Service Providers Perception.....	83
4.4.5.3	Service Users Perception.....	84
4.5	The Outcome of Implementation of PPP in Solid Waste Management.....	85
4.5.1	Competition and Contract Management.....	85
4.5.2	Assessment of Solid Waste Collection.....	86
4.5.2.1	Opinion on the State of Cleanliness of the Streets in Nairobi.....	87
4.5.2.2	Opinion on How the State of Street Cleanliness can be improved.....	88
4.5.2.3	Indicators of Good Performance.....	89
4.5.3	Performance Monitoring.....	90
4.5.4	Suggestion on How to make PPP in SWM Effective.....	91
4.5.4.1	NCC’s Perception.....	91
4.5.4.2	Residents Opinion on Service Provisioning.....	91
4.5.4.3	Service Users Perception.....	92
4.5.5	Comparison of the Period when Solid Waste was collected by NCC and the Current situation where the Private Sector is involved.....	94
4.5.6	Rating on PPP for Solid Waste Management.....	95
4.5.6.1	Perception on PPP.....	95
4.5.6.2	Barriers to the implementation of PPP.....	97
4.5.6.3	Comments on NCC’s Preparedness on PPP for SWM.....	97
4.6	NCC’S FUTURE PLANS.....	98
4.7	Summary of the Findings-.....	99
CHAPTER FIVE.....		104
5	CONCLUSION.....	104
5.1	Introduction.....	104
5.2	Conclusion.....	105
5.2.1	Reasons for implementing PPP in Solid Waste Management.....	105

5.2.2 How is PPP being implemented?.....106

5.2.3 The Outcome of Implementing PPP in SWM in Nairobi.....107

5.3 Study Recommendations108

5.3.1 Situation analysis of PPP in SWM.....108

5.3.2 Process and Outcome of Implementing PPP in SWM.....109

5.4 Recommendations for Further Research.....110

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LIST OF ACRONYMS

AMA	Accra Metropolitan Area
CCC	Central Communal Container
CCL	Creative Consolidation Company
CCN	City Council of Nairobi
CBD	Central business district
CBO	Community based organization
CDR	Council of Development and Reconstruction
CIG	Common Initiative Groups
CILOR	Contribution in Lieu of Rates
DCC	City of Dar es salaam
DOE	Department of Environment
ECA	Economic Commission for Africa
EMCA	Environment Management and Coordination Act
ESA	External Support Agencies
GBA	Great Beruit Area
HtH	House to House
IMF	International Monetary Fund
JICA	Japan International Cooperation Agency
KIRDI	Kenya Industrial Research and Development Institute
LA	Local Authority
LACECO	An Independent Consulting Company
LASDAP	Local authority service delivery plan
LATF	Local authority transfer fund
LDP	Low Density Polythene
LG	Local government
LMG	Local Municipal Government
MOE	Ministry of Environment
MOH	Ministry of Health
MOLG	Ministry of Local Government

MSW	Municipal Solid Waste
NCC	Nairobi City County
NEMA	National environment management authority
NGO	Non-Governmental Organization
MMRA	Ministry of Municipal and Rural Affairs
NPM	New Public Management
PPP	Public private partnership
PSP	Public Service Providers
RA	Residents Association
RCC	Refuse Collection Charges
SAP	Structural adjustment program
SME	Small and Medium Enterprises
SWCPC	Solid Waste Collection Private Contractors
SWM	Solid waste management
SPSS	Statistical Package for Social Sciences
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environmental Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNESCO	United Nations Scientific and Cultural Organization
UN-HABITAT	The United Nations Human Settlements Programme
UNCHS	United Nations Centre for Human Settlements
UNDP	United Nations Development Program
UNIDO	United Nations development industrial organization
UNPD	United Nations Population Division

LIST OF FIGURES

Figure 2.1: PPP Options	39
Figure 3.1: Clean up in the city	57
Figure 4.1: SWM Problems	69
Figure 4.2: Opinion on Enforcement of Law	71
Figure 4.3: Rating of NCC on SWM.....	73
Figure 4.4: Reasons for Rating on NCC.....	74
Figure 4.5: Why PPP is Suitable Model	75
Figure 4.6: Involvement of PSP in SWM.....	76
Figure 4.7: A well designed waste transportation vehicle (Source NEMA, 2014)	78
Figure 4.8: Waste Collection Fees.....	81
Figure 4.9: NCC Monitoring Capacity	84
Figure 4.10: Reason for NCC Monitoring Capacity.....	85
Figure 4.11: Opinion on Street Cleanliness.....	88
Figure 4.12: Opinion on Service Provision	92
Figure 4.13: Comparison of Pre and Post PPP	94
Figure 4.14: Reasons for Improvement	95
Figure 4.15: Perception on PPP.....	96

LIST OF MAPS

Map 3.1: Map of Nairobi.....	52
Map 3.2: CBD Solid waste management.....	58
Map 3.3: Zone 1 Solid waste management.....	59
Map 3.4: Zone 2 Solid waste management.....	60
Map 3.5: Zone 3 Solid waste management.....	61
Map 3.6: Zone 4 Solid waste management.....	62
Map 3.7: Zone 5 Solid waste management.....	63
Map 3.8: Zone 6 Solid waste management.....	64
Map 3.9: Zone 7 Solid waste management.....	65

LIST OF TABLES

Table 2.1: Types of PPP	36
Table 4.1: Years of residence	67
Table 4.2: Collection of solid waste	68
Table 4.3: Suitability of PPP model for Nairobi	75
Table 4.4: If Involvement of private sector in SWM is Useful	76
Table 4.5: Frequency of waste collection per day	80
Table 4.6: NCC's view on performance monitoring.....	83
Table 4.7: Indicators of good performance	90
Table 4.8: How to make private contractors effective.....	93
Table 4.9: Reaction of key informants on NCC's preparedness towards partnerships.....	97

LIST OF APPENDICES

APPENDIX 1: Interview Schedule for City Council/ Government Officials	121
APPENDIX 2: Questionnaire 2: Targeted to Private Service Providers.....	134
APPENDIX 3: Questionnaire 3: Targeted to Property Managers / Caretakers/ Residents ...	148

CHAPTER ONE

1 INTRODUCTION

1.1 Background of the Study

Solid Waste Management (SWM) is an essential, specialized sector for keeping cities healthy and live able. Waste generation is typically linked to economic growth (that is, consumption and production of goods) and population growth. As the population grows, so does generation of solid waste. The SWM sector therefore requires careful attention for striking a balance between quality of service and cost effectiveness. This challenge is particularly significant for developing countries, where resources are limited but urbanization is occurring rapidly.

The population of urban areas in developing countries grows by more than 150,000 every day (Cointreau, 2007). In fact the number of global urban population is going to become double between 1987 and 2015 and almost 90 per cent of this increase will happen in developing countries where growth rate exceed three per cent a year which is three times more than industrialized countries (Medina, 2010). This increase in population, accompanied by unexpected and unplanned rapid urbanization on the one hand and economic growth in developing countries on the other, have accelerated the generation rate of municipal solid waste (Medina, 2010). The public sectors in many countries are unable to deliver services effectively. Regulation of the private sectors is limited and illegal dumping of domestic and industrial waste is a common practice.

Nairobi's solid waste situation is largely characterized by low coverage of solid waste collection resulting in pollution from uncontrolled dumping of waste. It is further characterized by inefficient public services, unregulated and uncoordinated private sector and lack of key solid waste management infrastructure. At the local level, the defunct City Council of Nairobi (CCN) was the body that had the primary responsibility for the provision and regulation of SWM services to the city of Nairobi. Currently, the Nairobi City County (NCC) delivers its SWM services through the Department of Environment (DoE) under the cleansing section, one of its three units (JICA, 1998). Until the mid-1970's, the cleansing section collected over 90

per cent of the waste. As years went by, there was a decrease in the number of waste collection vehicles due to lack of appropriate maintenance (Gicheha, 1990). On the other hand, the expansion of industrial and commercial sectors resulted in improved standard of living. This led to increased urban migration. This, together with technological advancement led to increased waste generation. In mid-1980's, the defunct CCN collected only 20 per cent of the municipality's solid waste from industries, institutions, commercial establishments, and high-income residential areas, leaving about 290,000 tonnes of solid waste at the Dandora open dumpsite, located about 7.5 Kilometers from the city Centre (UN-HABITAT, 1998).

The collection and transportation of municipal solid waste is presently implemented by the Nairobi City County (NCC) as the executing agency for SWM in Nairobi, subcontractors of the NCC and private service providers (PSP's). JICA (2010) proposed that waste collection and transportation shall be improved with the involvement of private sector and that financial accountability shall be made transparent with the creation of SWM special account to improve NCC's financial management of waste collection and transportation.

Partnerships are believed to have bounced on the scene globally because many nation states failed in providing basic services (such as solid waste services), in particular to the poor (Baud 2004). Thus partnerships have been seen to promote the expansion in the quantity and quality of public services beyond levels possible under pure private or pure public arrangements (Jones, 2000). In addition, some authors claim that a combination of different actors is more likely to meet the variation in demands from the population living under different circumstances (Muller and Hoffman 2001).

Literature further shows that contracting-out service delivery to the private sector helps the government to reduce costs because private contractors are free from civil service requirements and thus have greater flexibility to hire and fire workers. They pay lower wages than government agencies and, most importantly, contractors tend to pay their workers substantially lower fringe benefits (Kettl, 1993)

Other fiscal arguments are that if public services are provided by the private sector, governments will be able to reduce subsidies to loss-making public agencies, increase tax revenue from private operators and reduce public borrowing by encouraging the private financing of capital expenditure (Rakodi, 2003). Hence, PPP became one of the most fashionable concepts of the 1990's. The partnership paradigm and theory argues that, in partnership there is a tendency to collaborate in order to solve emergent societal issues, among which environmental ones have been most prominent (Glasbergen et al. 2007).

Public private partnership in SWM in Nairobi started in 1997 when the defunct City Council of Nairobi contracted Kenya Refuse handlers (generally called handlers) for garbage collection, sweeping (streets, roads, lanes and market) and transportation of the waste to Dandora dumpsite on a daily basis from the Central Business District (CBD) (Njoroge et al, 2014). This improved the collection from 40 per cent to 90 per cent in the CBD but delays in payments interfered with operations (UN-HABITAT, 1998). In 2001, the collection of waste from communal collection areas and transportation to Dandora dumpsite was contracted out in other parts of the city. In 2004, the existing waste management districts were revised to nine divisions according to the constituency boundaries apart from Central Business District that was carved out from Starehe Division. The contractors were then distributed into these divisions. More than 13 contractors have been engaged and allocated into the various divisions by NCC. The Divisional officers were responsible for guiding these contractors on the routes to follow during waste collection and transportation to the dumping sites. It was the responsibility of the waste generators to transfer the waste to the collections sites. In the low income and unplanned settlements in the city, Community Based Organizations (CBO's), charitable organizations, welfare societies, village committees, self-help groups and residential (or neighborhood) associations (RAs) provided useful services at about Kshs. 100 – 300 per month collected from the residents ,whilst at the same time creating employment for about 3 – 4 days per week (Njoroge et al, 2014). These services included waste compositing, collection and transportation of solid waste, collection, storage, trading and recycling of waste component such as plastics and glass.

Following the adoption of the New Constitution in 2010, the City Council of Nairobi was converted to the Nairobi City County. For purposes of Solid Waste Management, the Nairobi City County is divided into 17 sub-counties and the CBD is counted as the 18th Sub-County.

There are a few projects in the past that City Hall has collaborated in with the private sector. For example, rehabilitation of public toilets and running them as Small and Medium Enterprises (SME's) has provided employment and much needed service facility for the public. Adopt a Light project has been an unqualified success. It has not only lit up streets in the wealthy parts of Nairobi, but also the slum areas, and this has improved security and allowed small informal business activity to continue into the night, not to mention children studying at night under these lights (Wambalaba, 2013). Public private partnerships are deemed to be strategic attempt to try and solve some of community's major problems in order to bring about development.

According to UNESCAP public private partnership itself is not a solution option for the service delivery problems but rather a viable project implementation mechanism for a desired solution option (UNESCAP, 2011).

The purpose of this study is to undertake a situation analysis of PPP in SWM, review and document how PPP in SWM is being implemented in the Nairobi Central Business District (CBD) and the outcome of implementing the PPP.

1.2 Problem Statement

All human activities generate waste. This requires to be properly managed to protect human health and environment. Proper management is also required to maintain and enhance aesthetics. The need for proper and efficient waste management is more pronounced in urban settlements where huge amounts of waste are generated within a very small area. The impacts of solid waste if not properly managed within the urban settlements particularly cities and big municipalities can be disastrous.

According to the integrated solid waste management survey for Nairobi city report by JICA (1998), Waste collected by the municipality on a regular basis amounts to one third. Periodic

collection deals with the remaining two thirds of the solid waste generated, while approximately 70 per cent to 80 per cent of solid waste remains uncollected. A subsequent survey on the solid waste management master plan for Nairobi showed that only 33 per cent of the total waste generated is collected and disposed of properly (JICA, 2010). The impact of non-collection and illegal dumping goes beyond the visual pollution and affects human health (JICA, 2010).

In the 1998 JICA study, CCN estimated that over 60 private companies registered under the Company Act were participating in waste collection. These companies are businesses with intentions for profit making, collecting tariffs directly from the customers. They operated in open and unregulated competition, providing services to those who can afford it. They remained uncontrolled and operated without any institutional or legal regulation.

Different types of PPP have been applied in other sectors in Nairobi, such as Energy, Water, Street lighting and Rehabilitation of public toilets with various degree of success. The study seeks to review and document how PPP is being implemented in SWM in Nairobi and the outcome of its implementation

1.3 Research Questions

The research questions take into consideration the objectives of the study. The main questions are:-

1. Review of PPP in Solid Waste Management in Nairobi
2. How PPP is being implemented in Nairobi
3. What is the outcome of implementation of PPP in SWM in Nairobi?

1.4 Objectives of the Study

The main objective of this study was to establish why PPP is being implemented in SWM in Nairobi and to document the outcome this far.

The specific objectives are:-

1. To undertake a situation analysis of PPP in SWM in Nairobi.
2. Establish the process and outcome of implementing PPP in SWM in Nairobi.

1.5 Significance of the Study

Waste management is important to a city manager because it is a visible and politically sensitive service. Inadequacies in the service can have severe implications for the credibility of public administrators. Proper management of waste is important for public health, environmental, economic and political reasons and therefore deserves to be managed sustainably.

In many cities in the developing world, the major change that can be observed in the collection, transport and disposal of solid waste is the increased involvement of the private sector either 'spontaneously' in a free market setting or encouraged through local authorities, Non-Governmental Organizations (NGOs) or CBO's. Solid waste management (SWM) is no longer a (local) government monopoly but a domain open to various modes of public-private co-operation (Post and Obirih-Opake, 2003)

This study is particularly useful to the different stakeholders including planners, administrators, academics, private waste collectors and in one way or the other aims at contributing to future management interventions in solid waste management sector of Nairobi City County and Kenya at large.

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1.6 Scope and Limitation of the Study

There are various partnership arrangements in the provision of urban services. These include, but are not limited to, collection and disposal of garbage, street lighting, beautification of roundabouts, public toilets among others. The main interest of this study is Public Private Partnerships between the City County of Nairobi and the Private Service providers in provision of Solid Waste Management Services within the Central Business District (CBD).

The study concentrated on the Central Business District (CBD), boundaries of which are marked by Uhuru Highway to the west, Nairobi River to the East, University way to the North and the Railway to the South as shown on Map 2 on Page 72 which comprises of diverse sources of waste generation and also has attracted several players in the management of waste. For purposes of Solid Waste Management, the CBD is zoned into 7 zones as shown in chapter four.

The respondents' scope of the study is limited to PPP in Solid Waste Management with focus on the collection function of solid waste within the CBD.

The study focuses on the following aspects:-

1. Collection of solid waste from the residents of the Nairobi City CBD.
2. Stakeholders: Focus on City Council, NEMA and other Government agencies, Private contracted and licensed service providers, and service users (residents).

1.7 The Structure of the Report

The study is organized in five chapters.

Chapter one is the introduction and it sets out the background of the study, the statement of the problem, the research questions, study objectives, the significance of the study and the definition of scope and limitation of the study. Some terms and concepts that are used frequently in the study report are defined in this chapter too. Chapter two covers the literature review on PPP in solid waste management and experiences from other parts of the world. Chapter three discusses the research design, population and sampling, methods of data collection, analysis and presentations and the case study area, which is the city of Nairobi.

Chapter four presents the Data Analysis. This chapter analyzes the interviews and questionnaire responses from the study area and makes recommendations for further consideration. Chapter five presents the Conclusions of the study.

1.8 Operational Definition of Terms Used In the Study

For purposes of this study, the following will apply:

1.8.1 Public Private Partnerships (PPP)

PPP refers to Private Public Partnerships, where elements of a service previously run solely by the public sector are provided through a partnership between a government agency and one or more private sector companies. Public – Private Partnership (PPP) is a tool of governance.

1.8.2 Private Sector

These will comprise of organizations that are neither owned nor managed by the public sector. The term refers to formal Private Service providers who are either licensed or contracted by NCC

1.8.3 Solid Waste

This can be defined as superfluous refuse, no longer serving a purpose, left over after use, or, useless by-product of manufacturing or physiological process (Brown, 1991). The National Environment Management Authority (NEMA) defines waste as ‘Any substance or object the holder discards intends to discard or is required to discard.

Solid waste is also defined as material that has been abandoned and discarded because it has no more value for the owner (Cointreau, 1982). The study defined solid waste as material that has been discarded because it has no more value to the owner.

1.8.4 Municipal Solid Waste

This is defined to include waste from households, non-hazardous solid waste from industrial, commercial and institutional establishments (including hospitals), market waste, yard waste and street sweepings.

1.8.5 Solid Waste Management (SWM)

Solid Waste management means “to collect, treat and dispose of solid wastes generated by all urban population groups in an environmentally and socially satisfactory manner using the most economical means available” (World Bank, 2011). In his paper, Schubler (1996), defines Solid waste management as a cyclical process which includes “setting objectives, establishing long-term plans, programming, budgeting, implementation, operation and maintenance, monitoring and evaluation, cost control, revision of objectives and plans” (Schubler, 1996). Schubler’s definition is adopted in this study.

CHAPTER TWO

2 LITERATURE REVIEW

This chapter reviews literature on PPP in SWM in selected countries with particular focus on Nairobi City.

2.1 Public –Private Partnership

Public–private partnership (PPP) can be defined as the transfer and control of a good or a service currently provided by the public sector, either in whole or in part, to the private sector. It involves a wide range of private sector participation in public services and serves as a potential strategic management tool (Donaldson and Wagle, 1995). PPP may also be defined as “...institutional relationships between the state and the private for-profit and/or the private not for-profit sector, where the different public and private actors jointly participate in defining the objectives, the methods and the implementation of an agreement of cooperation” (Jütting, 1999). Public private partnership is a long or medium term arrangement between the public and private sectors whereby public sector transfers part of its responsibilities to the private sector (World Bank 2011).

The contractual arrangements range from service contracts, management contracts and leases. It may also include operations and maintenance concessions, capital investments, divesture and asset ownership. Variable levels of partnership are established to improve levels of efficiency, effectiveness, responsiveness and adequacy of public services. These collaborations can be with small-scale independent providers, nongovernmental organizations (NGOs) or the private sector. In most cases, the arrangements are service or sector specific.

Several actors are involved in SWM. The different actors who are involved in urban SWM practices can be grouped into four major groups which include: Public sector; Private actors-Commercial; Citizens and informal sector and NGOs and donor agencies. Citizens also contribute to service delivery by supporting private sector participation with payment of service charges and by holding the service providers accountable for improvement and service quality of both public and private sector.

2.2 Composition of Public Private Partnership

PPP is made up of two main categories: Public Sector and Private Sector. Public sector refers to 'public own enterprises and/or institutions'. In SWM the public sector actors include Local Municipal Governments (LMG) or Local Government (LG) or urban authorities or city cooperation (Ahmed and Ali, 2004).

Public sectors in SWM get their responsibility by laws and regulations or by policies related to environment protection or health (Schübeler, 1996). Public actors are controlled by laws enacted by the National government. The public sector does much of their works manually, such as street sweeping and loading and therefore has a large labor force. The Private Sector on the other hand may be composed of formal private sector, informal private sector and non-governmental organizations.

The formal private sector includes registered enterprises carrying out SWM services such as collection, transport, and disposal and recycling. The 'formal private sector' can be define as "private sector corporations, institutions, firms and individuals, operating registered and/or incorporated businesses with official business licenses, an organized labour force governed by labour laws, some degree of capital investment, and generally modern technology" (Furedy, 1992). These enterprises may be large or small.

Informal Private sector includes unregistered, unregulated activities undertaken by individuals, families, groups or small scale business waste pickers, itinerant buyers, traders in waste materials and non-registered small-scale enterprises. Informal waste collectors are not regulated or controlled by government agencies (Ahmed and Ali, 2004). They therefore have no trading license and do not pay taxes. They are mainly involved in picking up the recyclable and reusable materials from mixed waste or from communal bins. Generally these people are called scavengers and waste pickers. These activities characterize the informal sector as this is labour-intensive, low technology, and low-paid, unrecorded and unregulated work, normally carried out by individuals or family groups (Wilson et al., 2006). Informal sector includes some individuals who work as waste collectors or sweepers or scavengers due to their religious, caste

or ethnic grouping (Schübeler, 1996). Community Based Organizations (CBOs) are also included in the private informal sector. CBOs are formed by community members. Some CBOs focusing on SWM mainly participate in primary collection and street cleaning.

Non-governmental organizations (NGOs) are also considered as private actors. Geographical dictionary (2005) defines an NGO as “any charity or volunteer association which takes on responsibility for a particular cause often starting on a small-scale and in response to a particular need such as natural disaster”.

This study discusses the NCC as the Private sector Actors and Formal Private Sector actors licensed and contracted by the NCC for Solid Waste Management purposes.

2.3 Why Public Private Partnership?

During the last century, governments had a significant role in provision of social services and infrastructure in most of countries all over the world but in the last three decades the role of the state has considerably changed (Harvey, 2005). The western world experienced a high point of state intervention in both nationalization and provision of social services between 1940's and 1970's which is also called Keynesian period. Keynesian economists often argue that the private sector decisions sometimes lead to inefficient macroeconomic outcomes which require active policy responses by the public sector, in particular, monetary policy actions by the central bank and fiscal policy actions by the government, in order to stabilize the business cycle (Sullivan et al, 2003) The economic crises in mid-1970's led to the decline of this period and the state was no longer capable of providing social services.

The neo-liberal and free market proponents took the opportunity to argue that the role of the state should change and delegate some responsibilities to private sector, which resulted in transformation of state's role and prioritization of free market rules and policies. Neo-liberal and free market solution was to involve greater participation of the private sector and promote market competition in order to tackle the economic crises and as a means of modernization and

in this process the Keynesianism was replaced by neo-liberalism as a dominant economical system (Callinicos, 2003).

Under the neo-liberal system during the 1980's and 1990's governments concentrated on promoting the private sector resulting in privatization of many public services and enterprises across the world (George, 2004). Private sector participation in provision of social services and public private partnerships can also be studied under this context as a result of privatizations and neo-liberalism (World Bank, 2000, Harvey, 2005). The competitive contract market as privatization advocates generally envision it, is derived from the modification of the Standard Market Model, the bedrock of neoclassical economic theory (Sclar, 2000)

On the other hand, New public management (NPM) emerged. NPM can be defined "as a body of managerial thought or as an ideological thought system based on ideas generated in the private sector and imported into the public sector" (Larbi, 1999). In general, public services are carried out by private sectors with structural, organizational and managerial changes. Palmer (2009) argues that NPM focuses on the management of public services carried out by the private sector with management changes.

NPM basically discussed fundamental changes to the power relationships between the main players in the system of government and requires significant attitudinal changes on the part of bureaucrats (Samaratunge and Bennington, 2002). NPM tried to ensure better governance with less cost (UNECE, 2008). To deliver services in low cost, NPM emphasized public managers roles' in providing high quality services, identified the importance of providing the human and technological resources which they needed to achieve their goals (Samaratunge and Bennington, 2002). NPM theory stated that, even if public services are delivered by the private sector, still government has a responsibility to guide them in addressing public issues (Miller and Dunn, no date). Normally public sectors have more responsibility to deliver public services to the citizens. Accordingly, the goal of the public sector, it is to deliver their services to the people. However policies related to PPP are important to achieve the goals.

NPM shifted the emphasis from traditional public administration to public management, pushing the state towards 'managerialism'. The traditional model of organization and delivery of public services, based on the principles of bureaucratic hierarchy, planning and centralization, direct control and self-sufficiency, is apparently being replaced by a market-based public service management or enterprise culture. NPM has provided for a future of smaller, faster-moving service delivery organizations that would be kept lean by the pressures of competition, and that would need to be user-responsive and outcome-oriented in order to survive. These organizations would be expected to develop flatter internal structures (i.e. fewer layers) and devolve operational authority to front-line managers. With a downsized number of staff, many services would be 'contracted out' instead of assuming that in-house provision is best (ECA, 2003)

Some economists use Pareto efficiency as an argument to justify private sector participation. Pareto efficiency is an important notion in neoclassical economics with applications in social sciences among others. It is the most frequently used normative criterion of modern economics. Given a set of alternative allocations and a set of individuals, a movement from one allocation of resources to another that cannot make one individual better off, without making any other individual worse off, is called a Pareto optimization. The term is named after Vilfredo Pareto, an Italian economist, who used the concept in his studies of economic efficiency and income distribution

Partnerships between local authorities and other agents are considered one of the most important ways of achieving more sustainable solid waste management in facilitating solid waste collection responsibilities and financial burdens (World Bank, 2000). Private sector participation in providing solid waste services started as a response to major failures of service delivery by the public sector (UNESCAP, 2011). Public private partnership arrangements pave the way to both the public and private sectors to share the responsibilities in providing the services (Cointreau 1994). According to UNESCAP public private partnership itself is not a solution option for the service delivery problems but rather a viable project implementation mechanism for a desired solution option. A PPP project in some cases may be more costly

unless additional costs (for instance due to higher transaction and financing costs) can be offset through efficiency gains (UNESCAP, 2011).

Studies show that it is very difficult to implement the PPP in many countries. The most important reason for this is, to deliver the PPP projects they have to improve institutions, processes and procedures (UNECE, 2008). If the countries do not build good governance in the PPP project, they may fail in their projects.

Partnership is a mechanism for ensuring that comparative advantages of different actors are exploited in a mutually supportive way. The strengths of the Public and Private sectors are maximized while minimizing weaknesses (UNCHS, 2003). It is believed that PPP can offer the best of both sectors. However, in reality, partnership between the two sectors is not easy to achieve. Certain enabling environment is necessary to foster trust and working relationship. PPP is more than the public sector merely offering co-operation to the private sector to facilitate the profitability of local firms. It is far more than occasional meetings between the city council and local business organizations (Ahmed and Ali, 2004)

Public-private partnerships can bring new ideas for designing programs and projects, and greater synergy between design and operation of facilities (UNDP 2000). Private sector service providers are accountable to their customers and are obliged to react to customer dissatisfaction. Cointreau-Levine (2000). Neo-liberalists and New Public Management (NPM) offer differing views on why PPP is embraced.

2.4 Fundamentals of PPP

Various theories including the new public management (NPM) theory suggest some basic fundamentals that need to be right if the expected results of PPP are not to be elusive. Cointreau-Levine (2000) argues that various issues are necessary when addressing the involvement of the Private Service Providers (PSP's) in solid waste services. They include efficiency, accountability, management, legislation, finance, and costs. Cost effective and adequate service standards can only be reached by creating effective competition amongst

several private sector contractors. This may be achieved through transparent bidding procedures, accountability for both contract parties and the comprehensive monitoring of contracted services.

Competition is the key condition for successful Private Sector Participation (PSP) as it results ultimately in more efficiency and effectiveness. The adoption of competitive tendering involves four steps: specification of the service to be provided; request for tenders; evaluation and selection of the contractor; and managing the contract after it has been let. Highly specific contract terms that establish duties; performance monitoring; rules for changing prices and sanctions hold the key to contractual exchange. If market imperfections hinder competition and the government is unable to act intelligently, problems ranging from conflicts of interest to fraud can ruin PPP (Awortwi, 2004).

Introduction of PPP usually requires municipal strengthening. Municipal managers should be able to set up contract specifications or delegate these to private agencies. New responsibilities encompass monitoring the performance of the new private operators. PPP puts pressure on Local Government (LG) bureaucrats who must build new capacity to manage agents in ways they have never done before. Building LGs' competence and effectiveness is therefore vital pre-requisites for successful PPP. Only LGs with 'competent professional staff' would be fully able to develop, negotiate, manage, monitor and enforce competent contracts (Kettl, 1993).

There must be a clear monitoring and reporting structure. Performance monitoring is a key condition to establishing a proper basis for evaluating efficiency and service effectiveness. The reason for monitoring is that agents are not to be trusted to stick to what they said they would do. Contractual enforcement cannot be taken for granted (Awortwi, 2004). The application of PPP as a management tool requires active and continuous examination of rendered services to determine whether they are more appropriately and effectively performed by the private sector (Massoud and El-Fadel, 2002)

Provision of accurate information is important. All relevant financial and technical information and data needs to be clearly and transparently outlined in the bidding documents. Contract

specifications need to be comprehensive and objective to avoid Asymmetric Information. They need to be applied in a fair manner during the operation period. At the heart of contract management and PPP lie the concepts of information management, contract discipline and enforcement mechanisms that penalize breach of contract (Fafchamps, 1996; Larbi, 1998 as quoted by Awortwi, 2004).

2.5 Experiences of Public Private Partnership

Partnerships have played an important role in urban policies for a long time. Partnership institutions began in the United States of America with the New Deal of 1932, when the federal government first became involved in housing in a variety of regulatory support (UNCHS, 1993)

Management of waste is concentrated on collection and transportation of which only 20 to 80 per cent is collected using 20 to 50 per cent of the city's operational budgets; yet servicing less than 50 per cent of the city population or areas (HABITAT, 1996; Hardoy et al., 2001). Landfills remain the most prominent technique with open dumps being the common practice. Littering is a common phenomenon resulting to illegal dumps created in empty spaces, wet areas, drains, streets and riversides.

Although the local authorities are mandated to manage wastes in urban areas, there are other stakeholders in the game. These include the national government authorities, external support agencies (ESAs), non-governmental organizations (NGOs), common initiative groups (CIGs), community based organizations (CBOs), formal and informal private sectors, scavenger and scavengers' cooperatives, households and individuals. These groups and individuals are usually termed informal until they are recognized and have been registered (Ali et al., 1999). They are involved in waste collection and removal, recycling, composting and waste recovery for reuse. All these groups and individuals do play an important role in municipal solid waste management. However, it is only relatively recently that some urban authorities in the developing countries have recognized, and eventually integrated them into their solid waste management systems. In cities where they have been recognized and integrated, the waste

management situation has greatly improved as in the cases of the many scavengers' cooperatives in Latin America and Asia (Furedy, 1992; Hardoy et al. 2001).

2.5.1 The Lebanon Experience

The study adopted from experiences narrated in a study on Public- Private Partnerships for Solid Waste Management Services undertaken by M.Massoud and M. El-Fadel of the Department of Civil and Environmental Engineering, American University of Beirut, published in the Environmental Management Journal, Vol. 30, No. 5, PP. 621-630, 2002 (accessed in the Internet).

As is the case in many developing countries, most public enterprises in Lebanon are run with inadequate attention to profitability, cost control, or efficiency. The municipalities in particular are wasteful in their use of capital and labor, and this in turn leads to inefficient performance or even failure to meet the goals. They are generally characterized by operating deficits, causing a drain on public budgets, and overstaffing, in many cases with relatives and others who lack skills and have little concern and real incentives for efficient management. In addition to the lack of financial resources, municipalities in Lebanon suffer from a lack of a qualified and motivated human resource base that can efficiently implement local development projects and use modern municipal planning and management tools. Lebanese government embarked on developing a national policy and management plan to find a solution for the management of Municipal Solid Waste (MSW). For this purpose, a private company was contracted to manage solid waste which included collection, street sweeping and operation of two processing plants.

2.5.1.1 Organizational Framework

Direct responsibility for MSW management in the Greater Beirut Area (GBA) lies with the Council of Development and Reconstruction (CDR), and to a lesser extent, the Ministry of Environment (MoE), and the Ministry of Municipal and Rural Affairs (MMRA). As for the

municipalities, their role is restricted to overseeing the work of the private company contracted for solid waste management services. Moreover, they are still responsible for refuse collection from public gardens, coasts, slaughterhouses, watercourses, and public and private obsolete lands. In its effort to ensure proper development and operation, CDR designated an independent consulting company (LACECO) to provide technical assistance to the Government through the supervision of the operator's activities primarily the operation of the processing plants, compost facility, and landfills.

2.5.1.2 Assessment of Solid Waste Collection and Transportation

For many years, the sight of scattered and illegally dumped solid waste was a common occurrence. This was attributed primarily to 15 years of civil unrest and inefficiency of municipality employees.

Since its inception, the private contractor (Sukleen) made impressive progress in strengthening its operating efficiency. It improved both collection and sweeping significantly. Collection, street cleaning, and transport of raw municipal waste recorded by far the most significant improvement. According to the research, the Private sector collected 347,349 tons per year compared with the public sectors 239,761 tons per year. The collection frequency was 2 to 3 times for the private sector compared to once per day for public sector. The Private sector offered 78 trucks, while the public sector only had 32 trucks. In Lebanon, considering that municipalities lack financial resources as well as a qualified and motivated human resource base, public-private partnerships for MSW management services in the GBA led to increased performance efficiency and environmental protection enhancement.

2.5.1.3 Official and Public Perception

Most interviewed officials (eight out of nine) agreed that the private sector participation in SWM gave the impression of efficiency and thoroughness, and in spite of problems associated with the introduction of a new service, waste was being removed and streets cleaned. Advocates of PPP considered it the most efficient and economical solution since the private

sector was more innovative, attracted capital and improved management. They also considered it as a tool to improve economic performance, relieve the enterprise from political interference, and introduce competition and efficiency.

In contrast, opponents of the PPP believed that it was more important to establish capital markets and improve the performance of the public sector. Advocates of a partial PPP believed that it was an optimal compromise solution since participation of the public as well as the private sectors was anticipated. The majority perceived the PPP as successful and recommended similar initiatives in other sectors. Complaints were limited to collection services because the general public is exposed primarily to this activity.

2.5.2 Accra's Experience

The study adopted from experiences narrated in a study on Partnerships and the Public Interest: Assessing the Performance of Public–Private Collaboration in Solid Waste Collection in Accra undertaken by Post and Nelson Obirih-Opareh, Published in the *Space and Polity Journal*, Vol. 7, No. 1, 45–63, and 2003 (accessed in the Internet).

Accra is a rapidly growing and sprawling urban agglomeration, accommodating around 3 million people in 2000. In 1995 (prior to the privatization of the service), only about 60 per cent of the total volume of waste was collected and disposed of in a controlled fashion. This estimate showed that the collection performance was far from adequate (Johan and Obirih-Opareh, 2003).

SWM in Accra was based on either the house-to-house (HtH) system or the Central Communal Container (CCC) system, both of which could be run by either the public sector or by private operators. The HtH system was exclusively operated in rich and some middle-income areas (about 30 per cent of the metropolis), whilst the CCC system was applied in the remaining areas. In the latter system, the Accra Metropolitan Area (AMA) normally provided the containers and bore all the cost. Due to the fast population growth and budgetary cuts that were imposed on the country by the IMF and the World Bank in the 1980's in order to recover from

economic crisis, the local authorities reinforced the argument for private-sector involvement in SWM. Privatization of services had been an accepted practice long before it became official policy through community-private initiative.

The policy shift towards PPP in the early 1990's required LG's to completely reorganize. The move from direct provision to coordinating and supervising private delivery implies that local bodies have to reorganize completely and reorient their administrative machinery with much more emphasis on contract management and performance monitoring. In addition, the entire regulatory framework has to be modified to suit the new division of tasks and responsibilities. This transformation requires time, money and political will to succeed (Johan and Obirih-Opareh, 2003).

2.5.2.1 Competition and Contract Management

The Ghanaian case showed that LG's did not use contract awards to introduce the level of competition required to promote good service delivery. Apart from the fact that only one contract (Teriwhite contracting out service in Tema) was competitively tendered, many of the agents in Accra and Kumasi were given absolute monopolistic powers to operate without any form of competition. This was not because there were no other competitive agents, but because of rent-seeking behaviour of some LG bureaucrats and politicians. Furthermore, instead of a 2-year duration normally required for contracting-out agreements, City and Country Waste Limited and Teriwhite contracts in Accra and Tema respectively were signed, for 5 years. Nevertheless, a rather surprising result from the analysis was the weak correlation between a good contract document and quality of service delivery by agents. Not only was the correlation weak, but also did not confirm the assertion that a properly written contract document with all the important clauses of being good (contract definition, contract process, financial incentives, duration, renewal and termination, monitoring and sanction, and settlement of disputes) is positively related with high quality outcome

The analysis showed that the potency of an arm's length relationship in contract management was negated because politics and patronage became a factor in awarding contracts. Other

reasons for this negative relationship seemed to be explained by the fact that the act of writing a contract is different from the act of implementing it.

2.5.2.2 Assessment of Solid Waste Collection and Transportation

Effectiveness was tested by looking at the actual frequency of collection and the cleanliness of the service. There was significant difference between CCC performance under public and private provision. Local contractors generally provided better services, probably because they were paid according to the number of containers they take to disposal sites (Johan and Obirih-Opareh, 2003).

In terms of service coverage, appreciable improvement in SWM was observed since the private sector stepped in, both in terms of spatial coverage and volumes of waste collected. Furthermore, a number of residential areas that were previously not served or were underserved now had private service provision, while servicing in some middle-income areas has been upgraded from CCC to HtH collection. The overall annual collection performance went up from 639 000 cubic metres in 1998 to 753 000 cubic metres in 1999. Unfortunately, privatization did not help to improve service levels in the most deprived areas as this depended on additional government investments in access roads and container sites (Johan and Obirih-Opareh, 2003).

2.5.2.3 Performance Evaluation

Monitoring of the private sector was exceptionally weak due to bad logistics, understaffing, low remuneration and corruption. Evidence showed that local service providers continuously flouted contract specifications and/or sanitary byelaws. However, despite an extensive list of complaints such as waste collectors not wearing protective clothing, using the same containers to collect solid waste and night soil, failure to cover open containers with nets during transport, poor-recordkeeping of complaints, etcetera, they were hardly ever sanctioned by the authorities.

On the LG's Capacity to regulate agents, the LG's were unable to do so because of lack of capacity to monitor performance, conflict of interest and few resources.

2.5.2.4 Official Perception

Experiences with the privatization of SWC in Accra clearly demonstrated the mutual hesitation of the two partners. Although privatization had been on Ghana's political agenda since the early 1980's when the government set out to liberalize its economy, the entire idea had always met with fierce opposition. This explained why privatization progressed much more slowly than anticipated.

In Ghana, many officials simply did not believe that the Private sector could efficiently and effectively take over service provision. The private sector, on the other hand, was not too keen to enter into a business arrangement with the AMA/WMD. Contractors clearly preferred the franchise arrangement that enabled them to keep control of their own revenues.

2.5.2.5 Public Perception

Out of 780 households that benefited from PPP, only 25 per cent felt that the quality of services delivery had improved. To many of them, frequency and reliability of waste collection, responses to user complaints and cleaning up of spillovers had not improved substantially although service charges had skyrocketed.

The findings demonstrated that PPP do not in themselves guarantee effectiveness and lower costs. Problems arise when LG's ignore or fail to implement important fundamentals that make them work. In Ghana, crucial issues regarding open and competitive bidding, competition among service providers, short-term contracting, strict monitoring and tracking results, and sanctions were not followed rigorously and sometimes not at all. The LG's failed to use contract awards to separate agents from the principals to the extent that the presumed superiority of arm's length relation was broken. Conflicts of interest developed into PPP to the extent that politicians, and not technocrats, played an important role in developing the models.

2.5.3 The Dar es Salaam Experience

By the year 1982, the City of Dar es salaam (DCC), with an estimated population of 1 million was generating about 1,200 tons solid waste per day. The capacity to collect and dispose of the waste was only about 66 tons per day, or 5.5 per cent of all refuse generated daily. The City authorities were unable to provide adequate refuse collection services particularly in the city centre, and the percentage of the solid waste that was being collected each day dropped. While the volume of solid wastes generated in 1992 amounted to 1,400 tons of waste a day, the DCC was only capable of collecting between 30 and 60 tons (2 to 4 per cent) of this amount (Solomon, 2011). The situation was particularly serious in the central business district. The main reasons for the DCC's failure to manage solid waste was due to lack of equipment; lack of financial resources to purchase spare parts and fuel for the fleet, mixed signals on political will; un-focused City leadership and lack of an official disposal site (Halla and Majani, 1999) as quoted by Solomon , 2011).

In 1994, the Dar es Salaam City Council decided to privatize some of its principal services in waste management, specifically waste collection, through a by-law adopted in 1993. The by-law was enacted in order to enable the privatization of solid waste collection in some central areas of the city of Dar es Salaam. This began through a five-year contract covering eleven wards in Ilala municipality. The contracted company, Multinet Africa Ltd, 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. The coverage of privatization gradually extended citywide. The privatization of solid waste collection in Dar es Salaam laid the basis for employment creation and income generation through waste collection, disposal and recycling and by that contributing to poverty reduction and urban environmental upkeep (Kaseva and Mbuligwe, 2003)

The three city municipalities of Ilala, Kinondoni and Temeke; and the Solid Waste Collection Private Contractors (SWCPC) carried out solid waste collection and disposal in Dar esSalaam. The SWCPC also included non-governmental organisations (NGOs) and community-based organisations (CBOs). The CBOs normally specialised in primary collection (from household

to collection points or enclosures), while SWCPC and some NGOs collected wastes from both primary and secondary collection (collection from the household level, collection centres and open spaces and roadside (illegal mini dumps) and hauled it to the final disposal. The three municipalities dealt only with secondary collection, that is, solid waste from collection points (enclosures) and from the illegal mini dumps (open spaces, roadside)

2.5.3.1 Assessment of Solid Waste Collection and Transportation

In terms of waste collection frequency, most contractors interviewed reported that collection is between 2 and 3 days per week. Waste from business places is collected daily or on agreed number of days depending on the type of business; for example if it is restaurant waste it is collected daily. Observation and investigation made indicated that most contractor's collection frequency depended on the mechanical condition of their collection trucks and the number of the daily crewmembers (Kaseva and Mbuligwe, 2003). It was also noted that most collection vehicles used by the contractors were second hand and were poorly maintained. It was also observed that collection crews were employed on daily basis (casual labourers) and were lowly paid. As such, the number of crewmembers varied from one contractor to another but generally ranged between 4 and 7. All solid waste collection was done between 7.00 am and 6.00 pm. This was one of the obstacles for high productivity of collection vehicles as well as crew team because on the way to either dumpsite or from dumpsite there are problems associated with traffic congestion (Kaseva and Mbuligwe, 2003). The SWCPC was hindered from rendering good quality service in the city due to lack of enforcement of existing legislation and by-laws and nonpayment of refuse collection charges.

2.5.3.2 Public Perception

Literature reveals that solid waste collection activities in the city, improved from 10 per cent in 1994 to 40 per cent of the total waste generated in the city daily in 2001. This improvement was attributed to private sector involvement in solid waste collection in the city. Kaseva and Mbuligwe, 2003, recommended that Registration and assigning SWCPC, NGO and CBO areas

to operate should take into account the capacity of the contractor, status of the areas to be allocated (low-, medium- or high income and whether the area is planned or unplanned). Proximity to the areas where these SWCPC are to operate must be given consideration, because this would promote efficiency in the performance of the services.

2.6 Solid Waste Management System in Kenya.

The basic elements of SWM comprising of collection, transportation and disposal are structures inherited from British colonial times. They were managed through two main legal frameworks, the Local Government Act, Cap 265(repealed) and the Public Health Act, Cap 242. These Acts gave local authorities the power to deal with solid waste management and charged them with the responsibility of providing SWM services (collection, transportation and disposal of all types of solid waste generated within their jurisdiction) and to maintain cleanliness and good sanitary conditions. However, the performance of these local authorities run SWM systems systematically started declining. This resulted in a lot of uncollected solid waste, which then attracted other actors to become involved in SWM activities (Ombis, 2012).

Prior to 1990, local authorities, under the Ministry of Local Government (MOLG), provided, and had monopoly control over SWM Services (Mullei and Bokea, 1999 as cited by Ombis, 2012). If there was a need for any other actor or organization to handle solid waste materials, a written agreement was required from the relevant local authority. The SWM system was organized at two levels: national and local. The national level was dominated by the Ministry of Local Government (MOLG), which had the main responsibility for policy formulation, providing technical assistance to city authorities, as well as supervisory oversight and guidance. Occasionally, funds were advanced to the local level, to finance specific projects (Ombis, 2012).

City authorities were primarily responsible for providing and regulating SWM services. Their responsibilities, including those of SWM, were managed through policy-making committees, consisting of councilors (JICA, 2010). The exact demarcation of the roles and powers of

MOLG and of city authorities remained unclear, since councilors also engaged in policy making. This unclear demarcation of roles and powers had the potential to create conflicts of interest in service provision.

To manage solid waste operations, the Ministry of Health (MOH) coordinated activities with a number of other departments of the city authorities. For example, formulation of solid waste management by-laws was done in consultation with the legal departments and sections. Enforcement of by-laws was the responsibility of city enforcement officers under the inspectorate departments. The penalties for those found illegally dumping were not punitive. City engineering and planning departments were consulted on infrastructural needs for SWM, with the planning department having the sole responsibility of providing disposal sites (as stipulated under the Physical Planning Act, Cap, 286). In terms of financing SWM services, it was the duty of the MOH to prepare annual operational and financial plans, and present these to the City Treasurer. Solid waste management services were mainly financed through general property taxes and other city fees charged at the local level. The only SWM service charge was on collection and disposal in the form of a fixed and uniform container charge, collected through water bills by the water and sewerage departments, also part of the city authorities. This charge was never reviewed and was applied uniformly to all types of solid waste, irrespective of quantity, and was insufficient to finance SWM services (adopted from Ombis, 2012)

With increased population growth and changing lifestyles, the capacities of Kenyan urban authorities to provide satisfactory collection and disposal services started to decline. Demand for better SWM services started to escalate as city authorities failed to accomplish their basic statutory responsibility (Karanja, 2005). A scarcity of resources was seen as the main obstacle to achieving satisfactory SWM services. The framework under which the service provision and delivery took place was also problematic as it was highly fragmented and activities were poorly coordinated (Karanja, 2005). In line with international obligations, such as those on the implementation of Agenda 21 (from the 1992 Rio summit), to which the Kenyan government was a signatory, and donor priorities and strategies, a number of initiatives by government and

other non-state actors started to emerge in response to the ever deteriorating public SWM services(Ombis,2012).

After 1990, solid waste management systems of city authorities in Kenya were restructured. They switched from being responsible for waste collection and disposal to providing supervisory services and creating an enabling atmosphere for managing solid waste and the problems it creates (Ombis, 2012). Led by Nairobi in 1996, local authorities in Kenya formed a Department of Environment (DoE) to handle Solid Waste. The National Government provided financial support through Contribution in Lieu of Rates (CILOR), the Road Maintenance Levy Fund (RMLF) and Local Authority Transfer Fund (LATF). Despite this major structural shift and the increased financial support, the performance of the Environment Departments remained unsatisfactory. Solid waste collection services were still marred with an array of inefficiencies. A survey on the solid waste management master plan for Nairobi showed that only 33 per cent of the total waste generated is collected and disposed of properly (JICA, 2010).

The establishment of Environment Departments did not improve city level environmental management services significantly. They employed very few professionals and the Heads of the Departments mostly lacked relevant environmental training. The problem was further compounded by lack of training and up-grading of staff skills. Even Nairobi city, which had a training policy, did not prioritize training needs for the Environmental Department based on departmental mandates and individual needs assessment (Ombis, 2012).

Another issue that hampered the performance of Environment Departments was the tendency of councilors appointing nonprofessionals to key positions. Councilors also often interfered with the duties allocated to such officers (JICA, 1998). Such interference made it difficult to establish managerial hierarchies and set clear performance targets, as staff had divided loyalties. All these factors contributed to poor service delivery and meant that SWM was influenced more by the search for market driven solutions than by meeting social obligations and environmental goals (Ombis, 2012).

Due to the above issues, the service provision monopoly that city authorities enjoyed over the years came under increasing criticism and non-state actors became increasingly involved in the SWM activities. Consequently, Community Based Organizations (CBO's) and Private companies are increasingly taking over waste collection and disposal services. Guided by economic efficiency, private waste collection companies are now the main SWM providers in high and middle income residential neighborhoods, business and industrial premises of cities (JICA, 1998; JICA, 2010). There are over 120 private companies licensed by NCC and more than 140 informal private companies that are estimated to be participating in waste management (Ngau and Kahiu, 2009).

The private sector needs to be regulated by the city authorities to guide their areas of operation and pricing structures. Some studies show that private sector operators indiscriminately (and illegally) dispose waste in low income and informal urban residential areas (KNCPC, 2006). For this reason, city authorities still have to take charge of SWM service delivery and to provide and implement regulatory measures for private service provision and for private service providers (JICA, 2010)

Community Based Organizations (CBO's) also begun to provide solid waste collection and disposal services, mainly within informal areas of the cities. Community involvement in sanitation in Kenya's urban centers emerged in the early 1990's (JICA, 1998). Compelled by failure of services from the existing providers, young people voluntarily came together and created CBO's to offer social services including security and environmental clean ups (Karanja, 2005).

2.6.1 Solid Waste Situation in Nairobi City

Waste in Nairobi comes from a variety of household, service, and industrial processes in the following proportions: domestic sources: 68 per cent; industrial: 14 per cent; roads: 8 per cent; hospitals: 2 per cent; markets: 1 per cent; and 7 per cent from other sources (NEMA, 2003). Waste is mainly disposed of at Dandora dumping site. According to Blacksmith institute (Sep 2007) Dandora dump site is listed as "The world's worst polluted places. The report bluntly states that "living in a town with serious pollution is like living under a death sentence.

Pollution is unacknowledged burden on the poor and marginalized in the developing world, a significant strain on the lives of already impoverished people”.

According to JICA, 2010, there are 74 illegal dumpsites spread commonly in areas around markets. The amount of waste disposed in illegal dumpsites ranges from 20 to 50 tonnes in smaller sites to more than 1000 tonnes in bigger ones (JICA, 2010). According to KIRDI, 2008 there are 30-35 waste dumpsites and these tend to be concentrated near informal settlements and river banks. The disposal of waste at the dump sites is not managed which results in blocked drains and floods evidenced during rainy seasons where roads turn to rivers.

Market waste forms a high proportion of the total waste generation in Nairobi. Based on JICA, 2010 surveys, market waste generation amounted to 90 tonnes per day which analyzed to 32,850 tonnes per annum. The market waste comprises predominantly of organic waste (JICA, 2010)

2.7 Policy Framework and Implications

Legal framework concerning solid waste at the national level are very few and scattered through a number of Acts and NCC's bylaws (JICA, 1998). There is no categorization in these legislations which was enacted to cover municipal waste only. The legislation is also deficient in setting and defining standards and conditions covering a number of aspects on SWM, particularly concerning operational aspects. For example, there is no by-law or central government regulation defining standards for collecting, treating and transporting SW or proper management of sanitary landfills. The laws should be legislated to include activities concerned with the waste management. They should clarify what responsibilities the citizen, enterprise and government should take. The laws should also include sanctions to the law breakers concerning solid waste management (Njoroge et al, 2014).

The Environmental Management and Coordination Act (EMCA) No. 8 of 1999 (EMCA) provides the framework for the coordinated management of the environment. The Act deals with waste management including standard setting, disposal site licensing, control of hazardous, industrial and hospital waste. Under the Act, responsibility for the storage, treatment and collection of hospital, industrial and hazardous wastes will be the generator.

However, final disposal of all types of wastes remain the responsibility of local governments. Until the enactment of EMCA, 1999 (Republic of Kenya, 2000a). Section 3 of EMCA, 1999 stipulates that - "Every person in Kenya is entitled to a clean and healthy environment and has a duty to safeguard and enhance the environment. "Kenya never had a specific national solid waste management policy. This Act gives responsibility of Solid waste management to all waste generators except for waste disposal which is the responsibility of local authorities. Section 86 of EMCA, 1999 provides that - "The Standards and Enforcement Review Committee shall, in consultation with the relevant lead agencies, recommend to the Authority measures necessary to: - (2) prescribe standards for waste, their classification and analysis, and formulate and advise on standards of disposal methods and means for such wastes; or (3) issue regulations for the handling, storage, transportation, segregation and destruction of any waste."

Section 87 sub sections 5 observes that any person who contravenes this provision shall be guilty of an offence and liable to imprisonment for a term of not more than two years or to a fine of not more than one million shillings or to both such imprisonment and fine. It however allows for partnerships through licensing as stipulated in Section 87(2) paragraphs (a) and (b) that provides that 'No person shall transport waste other than in accordance with a valid license to transport waste issued by the authority'.

The City Council of Nairobi is charged with the primary duty of regulating and managing the solid waste that is generated within its jurisdiction. The City Council of Nairobi (Solid Waste Management) By-Laws of 2007 provided a framework for aiding the regulation and management of all the solid waste that is generated in its area of jurisdiction. The By-laws mandated the council to arrange for collection, treatment and disposal of all domestic and street waste. It was also to take all necessary and practical measures to maintain all places within its jurisdiction in a clean and sanitary condition at all times. The By-laws introduced formal participation of private parties by providing that 'it shall be an offence for any person who is not a registered transporter of solid waste or a permit holder in the course of any business of his or otherwise with a view to profit to transport any solid waste within the area of jurisdiction of the Council unless he belongs to a category of transporters who have been exempt by the

Council from registration'. Sub-section (2) mandated the Council to make provision for the registration of waste transporters.

Other legal statutes that deal with solid waste include the Factories Act (Cap 514 of the Laws of Kenya) which relates to sectors that generate solid waste and The Building Code which deals with construction waste although it does not explicitly direct where construction and demolition waste should be disposed.

Nairobi City County by-laws on Solid Waste Management state as follows (accessed in their website WWW.nairobicity.go.ke on 24th August 2014)

1. Organized groups will be given permits for small scale recovery of waste
2. Occupiers/tenant of any building/trade premises must have a sizeable container with a good lid in which the daily domestic waste should be kept.
3. Domestic and trade premises occupiers and owners shall separate recyclable waste and place in a different container provided/approved by the Council
4. Premises owners/occupiers of the premises should ensure hazardous/clinical waste is managed to the satisfaction of the Council
5. Burning, throwing away etc. of waste in an inappropriate place is an offense
6. Waste operators permit is not transferable without the consent of the Council.
7. The Council must provide a place to dispose waste before it is transferred to final disposal.
8. It is prohibited to disturb a waste disposal site or container approved by the Council
9. The Council may revoke/cancel a waste operator's permit in the breach of given conditions.
10. The Council issues directions for different waste collection charges for different areas of the city.
11. Any duly authorized officer may inspect a residential dwelling or trade premises at any time.

2.8 Legal Statutes on Private Public Partnership

PPP is firmly governed by at least three Acts of Parliament that broadly provides the legal basis for such undertakings.

The Privatization Act No. 2 of 2005 broadly defines privatization to include all transactions that result in the transfer to a private entity the assets, operational control and operations of all public assets. PPP is given due recognition in the description of the methods of privatization. The Act recognizes benefits that may be derived from privatization which are detailed in 18(2) and includes infrastructural improvement, improving the efficiency of the economy, and generation of additional government revenues. It defines the methods of PPP to include, “concessions, leases, management contracts and other forms of public-private partnerships”. The Act formulates the Privatisation Commission which is a body corporate with functions to formulate, manage and implement the privatization programme and the institutional structure for implementing PPP. However, Sec 76 of the PPP Act, 2013 amended the definition of the term ‘privatization’ to mean ‘a transaction or transactions that result in a transfer, other than to a public entity, of the assets of a public entity including the shares in a state corporation’.

The Public Procurement and Disposal Act No 3 of 2005 established procedures for procurement and the disposal of unserviceable, obsolete or surplus stores and equipment by public entities to achieve the following objectives

- (a) to maximize economy and efficiency;
- (b) to promote competition and ensure that competitors are treated fairly;
- (c) to promote the integrity and fairness of those procedures;
- (d) to increase transparency and accountability in those procedures;
- (e) to increase public confidence in those procedures, and
- (f) to facilitate the promotion of local industry and economic development.

With specific regard to PPP, the Act provides for participation of the private sector in the financing. Construction, development, operation or maintenance of infrastructure or development projects of the Government through concession or other contractual

arrangements. "Concession" is defined as "a contractual license formalized by a project agreement, which may be linked to a separate interest or right over real property, entitling a person who is granted the license to make use of the specified infrastructure or undertake a project and to charge user fees, receive availability payments or both such fees and payments during the term of the concession"

The Public Private Partnership Act of 25th January, 2013 provides for the participation of the private sector in the financing, operation, or maintenance of infrastructure or development projects of the Government through concession or other contractual arrangements. It also provides for the establishment of institutions to regulate, monitor and supervise the implementation of project agreements on infrastructure or development projects and for connected purposes. The Act authorizes the contracting authority to enter into a Public Private Partnership with a private party in accordance with the Second schedule or in accordance with such arrangement as may be approved by the Cabinet Secretary. Prior to entering into such partnership, Sec 20 directs the contracting authority to undertake a sector diagnostic study and assessment covering the following areas:-

- a) Technical issues,
- b) Legal, regulatory and technical frameworks
- c) Institutional and capacity status
- d) Commercial, financial and economic issue; and
- e) Such other issues as the Cabinet Secretary may stipulate.

Procurement of such partnerships will be through competitive bidding process as stipulated in Part VI of the Act.

Constitution of Kenya:

In the Constitution of Kenya, Article 42 on the Environment provides that-

- "Every person has the right to a clean and healthy environment, which includes the right
- (a) to have the environment protected for the benefit of present and future generations through legislative and other measures, particularly those contemplated in Article 69; and
 - (b) to have obligations relating to the environment fulfilled under Article 70."

Article 69 on Obligations to the Environment, the Constitution provides that –

(1) The State shall—

(d) Encourage public participation in the management, protection and conservation of the environment;

(f) Establish systems of environmental impact assessment, environmental audit and monitoring of the environment;

(g) Eliminate processes and activities that are likely to endanger the environment; and

(h) Utilize the environment and natural resources for the benefit of the people of Kenya.

(2) Every person has a duty to cooperate with State organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources.

Part 2 of the fourth Schedule in the Constitution of Kenya also explicitly provides that the County Governments shall be responsible for; refuse removal, refuse dumps and solid waste disposal.

The Vision 2030 is a planning document. The document recognizes that efficient and sustainable waste management systems are required as the country develop into a new industrialized state by 2030. It is divided into three fundamental pillars: Economic, Social and Political pillars. The social pillar aims at realizing a just and cohesive society enjoying equitable social development in a clean and secure environment. Under the Social Strategy, the vision envisions Kenya becoming a nation that has a clean, secure and sustainable environment by 2030. To realize this strategy, the document explains that one of the specific strategies will be to improve pollution and waste management through the design and application of economic incentives, and the commissioning of public-private partnerships (PPP) for improved efficiency in water and sanitation delivery. Some of the flagship projects earmarked for this strategy developing tight regulations for the plastic bags in order to limit production and usage of environmentally-detrimental plastic bags, and a solid waste management initiative that is to be characterized by the relocation of the Dandora dump site, and the development of a solid waste in five leading municipalities and in the economic zones planned under Vision 2030.

The city's SW Vision is to deliver a waste free city in supporting and mainstreaming of the environment and climate change into planning in order to attain the envisaged goal of sustainable development of vision 2030.

Types of Public Private Partnerships: According to the Public Private Partnership Act, 2013, there are thirteen (13) types of PPP as shown on Table 2.1 below:-

Table 2.1: Types of PPP

NO.	PPP TYPE	Public Party	Private Party	SPECIFIED PERIOD
1.	Management Contract	Retains Ownership and control of all facilities and capital assets and properties	Responsible for Management and performance of a specified obligation, within well-defined specifications	Not exceeding 10 years
2.	Output performance based contract	Retains ownership of the facility and capital assets	Responsible for operation, maintenance and management of an infrastructure facility	Not exceeding 10 years
3.	Lease	Owens Premise	Pays rent to the contracting authority, manages, operates and maintains facility	Not exceeding 30 years
4.	Concession	Issues contractual license	Operates, maintains, rehabilitates or upgrades an infrastructure facility	Not indicated

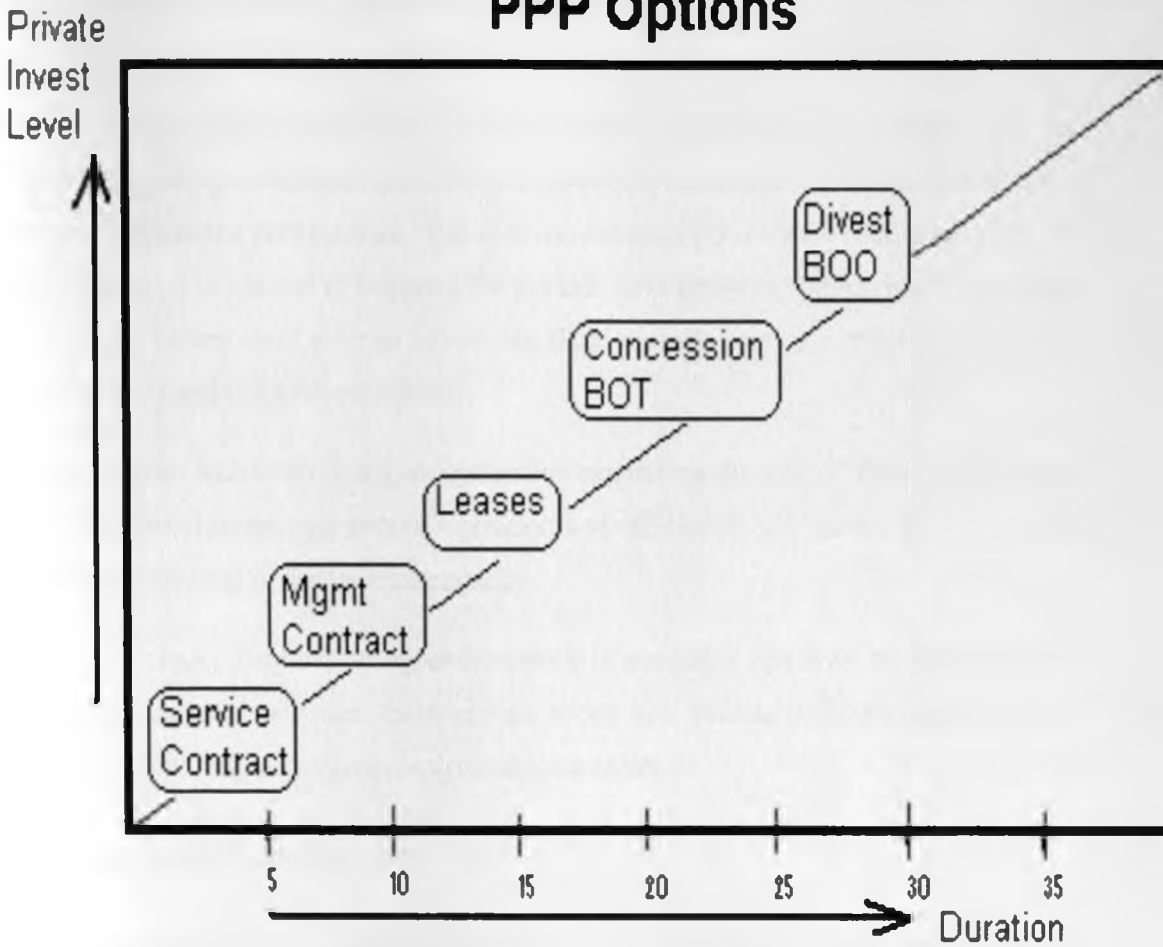
			Charges user fees while paying concession fee to contracting authority	
5.	Build- own- operate-transfer (BOOT)	Gives Authority	Design, construct, finance, operate and maintain and transfer after expiry of term	Not exceeding 30 years
6.	Build-Own- Operate (BOO)	Gives Authority	Design, construct, finance, operate and maintain and transfer after expiry of term	Specific period of time
7.	Build-Operate- Transfer (BOT)	Gives Authority	Finance , construct, operate and maintain Transfers the facility at expiry of term	Not exceeding 30 years
8.	Build-Lease- Transfer (BLT)	Gives Authority Leases the facility	Finance and construct Automatically Retains the facility at expiry of term	Specific period of time
9.	Build-Transfer and Operate (BTO)	Gives Authority	Constructs and assumes the costs and risks associated with the construction and upon completion, transfers the ownership to the contracting authority then continues to operate the facility on behalf of contracting authority	

10.	Develop-Operate- and –transfer (DOT)		Right to develop adjoining property, enjoy the benefits the investment creates, Transfer the property but the developed property remains the property of the private party in perpetuity	Gives Authority Not exceeding 30 years
11	Rehabilitate- Operate and Transfer –(ROT)	Gives Authority	Refurbishes, Operate and maintain then transfer at the end of term	Specific period of time
12.	Rehabilitate-Own- and –Operate (ROO)	Transfers property Gives conditions of arrangement during the operation of the facility	Refurbish and Operate with no time limitation imposed on ownership	No time limit
13.	Land Swap	Transfer existing public land or asset	In consideration of an asset or facility that has been developed by the private party	

Source: Second Schedule, PPP Act 2012: PPP Arrangements

The first 2 arrangements are suitable for Solid Waste Management.

PPP Options



Adapted from The Institute for Public-Private Partnerships

Figure 2.1: PPP Options

2.9 Service Contract Option

NCC has adopted the Service Contract PPP Model in management of Solid Waste.

Under a service contract, the government (public authority) hires a private company or entity to carry out one or more specified tasks or services for a period, typically one to three years. The public authority remains the primary provider of the infrastructure service and contract out only portions of its operation to the private partner. The private partner must perform the

service at the agreed cost and must typically meet performance standards set by the public sector.

Under a service contract, the government pays the private partner a predetermined fee for the service. Often there may be some financial incentives in the contract to reduce operating costs and /or improve operating performance. The government is responsible for funding any capital investments required to expand or improve the system. One financing option involves a cost-plus-fee formula, where costs such as labour are fixed and the service contractor receives a premium over the fixed costs for its efforts.

Advantages include: Relatively low-risk option for expanding the role of the private sector, Quick and substantial impact on system operation and efficiency and Means for technology transfer and development of managerial capacity.

Disadvantages include: Require strong enforcement of contracts and laws by public sector, Does not attract capital investment from private sector and Private partner's incentives are limited and therefore may not encompass overall objectives

2.10 Summary of Literature Review

Local authorities in developing countries increasingly face challenges in adequate provision of Solid Waste Management to her citizens. Various reasons such as unanticipated increase in urban population, lack of financial resources and capacity, among other reasons. The structural adjustment Programs in the 1980's did a lot to aggravate problems relating to service provision. As a result, private sector participation started in response to major failures of service delivery by public sector. The case for private sector participation was greatly supported by the Keynesian economists, neo classical economists, the neo-liberal free market and new public management proponents. The role of the local authorities is however required to provide monitoring and coordination of these initiatives and also providing incentives for actors in the private sector.

Experience from other developing countries revealed the shortcomings of the Public sector that gave birth to private sector participation, how PPP was implemented and the different outcomes. The situation in Kenya is similar to the other countries, with Public authorities

increasingly failing in provision of services. Private sector participation in service provisioning is done formerly or informally requiring regulation by the public sector. Legislation is in place. Nairobi, in contrast, the local authorities opted for a management contract, which is a less demanding form of privatization. Tax collection remains the preserve of the municipality. NCC continues to directly levy taxes on users of its services, and pays the private company separately

The fundamentals for the success of PPP include accountability, legislation, competition, municipal strengthening, among others. A clear monitoring and reporting structure is also important. Private sector has several actors including formal, informal and non-governmental actors.

This case study reviewed the situation in Nairobi City, which like other cities has challenges in provision of solid waste management. It intended to establish why PPP is being implemented, how it is being implemented and the outcome of its implementation. The study specifically concentrated on PPP between the public sector and formal private service providers.

CHAPTER THREE

3 RESEARCH METHODS

3.1 Introduction

This study was carried out in July 2014. Various methodological procedures and techniques in data collection, processing and presentation were adopted. The chapter presents the methods used in data collection and analysis. It discusses the research design, the population and sampling, data collection, data analysis and presentation, and the case study area.

3.2 Case Study Approach

A case study approach is most appropriate to investigate PPP arrangement in SWM. A case study approach aims to understand the 'whole' by investigating a case under consideration within its wider context, and is particularly helpful when 'how' questions are being posed. Yin (1993) as quoted by Ombis, 2012, argues that a major rationale for using case studies is when an investigation must cover both a particular phenomenon and the context within which the phenomenon is occurring, either because (a) the context is hypothesized to contain important explanatory information about the phenomenon or (b) the boundaries between phenomenon and context are not clearly evident. In this study exploratory case study approach was used, guided by the main research question which aims to understand and assess the functioning of PPP activities.

According to Yin (1994) as quoted by Ombis, 2012, case study research can include quantitative and qualitative research methods, often relies on multiple sources of evidence and benefits from prior development of theoretical propositions. This study used qualitative research methods.

Nairobi was chosen because it is the largest municipality in Kenya with great economic importance to the country. It is the only one with official city status. The researcher is also based in Nairobi County.

3.3 Research Design

The research began by visiting City Hall's department of Environment, specifically, the section dealing with solid waste management. Fieldwork was undertaken in July 2014 and lasted three weeks. The study took a case study approach focusing on PPP as a Solid waste management tool in the Nairobi City with particular emphasis on the Central Business District (CBD). It adopted descriptive design. The core advantage of descriptive design is that it seeks to establish factors associated with certain occurrences, outcomes, conditions or types of behavior (Mugenda and Mugenda, 1999).

The study further adopted qualitative data collection methods. Qualitative research, broadly defined, means "any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification" (Strauss and Corbin, 1990). A checklist of questions was developed to guide discussions with Key informants at City Hall's department of environment, and formal private service provider contracted by the local authority to provide solid waste management within the CBD. The questions were aimed at gathering the necessary information for establishing the position on the engagement of PPP in solid waste management.

Additional information was gathered from the service users, mainly Property Managers and building caretakers within the CBD in order to obtain their views on the services provided by the local authority and the private service providers.

3.4 The Population and Sampling

Population refers to an entire group of individuals, events or objects having a common observable characteristic (Mugenda and Mugenda, 1999). The population for the study comprised of the day population that converged in the CBD of the city of Nairobi on a normal working day.

Sampling is the process of selecting a number of individuals from a population such that the selected group contains elements representative of the characteristics found in the entire group (Orodho and Kombo, 2002). The study, whose scope covers only the CBD of the city of

Nairobi, adopted purposive sampling which allows the researcher to use cases that have the required characteristics with respect to the objectives of the study (Mugenda and Mugenda, 1999). Purposive sampling was applied to NCC staff from the Department of Environment and the specific private service providers operating within the CBD who had the information required and also because of the ability of this method to provide in-depth information.

On the other hand, random sampling was adopted. Respondents were randomly selected on the basis of a particular characteristic (Frey, 2000). Random sampling was applied to the population in the CBD represented by Property Managers and caretakers of buildings situated within the CBD, to enable the research achieve desired representation from different parts of the city. The subjects of this study covered premises randomly selected within the CBD from each SWM Zone.

3.5 Data Collection

Both Secondary and Primary data was collected in order to gain understanding of why and how PPP in Solid Waste management is being implemented in Nairobi.

Secondary Data was obtained from extensive review of literature on Partnerships, both locally and internationally, with specific emphasis to PPP in solid waste management. Literature reviewed included existing data available at the Department of Environment at City Hall , legal statutes and by-laws, literature review of published and unpublished data on solid waste management in other developing countries, Research Reports, Scientific articles, Books, NGO's reports and publishing , World Bank and UN reports among others and relevant World Wide Web pages (Internet)

Primary data was obtained by administering questionnaires to selected staff from the Nairobi City County, Department of Environment, Key partnership institutions involved in the provision of Solid Waste Management and a cross section of respondents within the study area. Face to face interviews were taken with NCC Staff in the Environment Section and formal Private Service providers. Semi-Structured questionnaires were administered to allow for

qualitative research. The researcher also conducted personal semi-structured interviews. Semi-structured interviews were an important method used in this research, to allow flexibility towards specific respondents and two-way discussion with respondents while maintaining focus on the major issues to be discussed.

The questionnaires were of three types as discussed below:

(1) Interview guide for NCC and NEMA: The officials of these organizations were interviewed to obtain data on solid waste collection and their views on solid waste collection by the public-private partnership arrangement. The interview was also aimed at investigating whether or not the involvement of private collectors had brought improvement in SWM in the city and how the municipal authorities regulate the performance of the private contractor i.e. supervise and monitor the quality of the service delivered.

(2) Interview guide for Service Providers: The main objective of this type of questionnaire survey was to follow-up on the role of Private Service Provider in the PPP and establish their contractual relationship in service provisioning .It was also aimed at establishing the challenges faced in the partnership arrangements and the outcome of service provisioning within the PPP arrangement.

(3) Interview guide for Service Users: This type of questionnaire was set SWM service beneficiaries within the CBD. The main purpose of this questionnaire was to obtain views and ideas of the residents on the solid waste collection services prior to and after the involvement of the private sector. The questionnaires were distributed in a systematic manner to Property Managers and Caretakers of buildings situated in the seven solid waste management zones.

3.5.1 Methods of Primary Data Collection

3.5.1.1 *Reconnaissance visit*

The pre-fieldwork phase of the research involved a reconnaissance visit. Preliminary survey was conducted by the researcher in September 2013 at City Hall. The reconnaissance visit helped to identify the research areas and gather relevant preliminary information on the areas. The objective of the visit was to establish initial contacts with local government officials

dealing with solid waste management and look at the possibilities of cooperation during the research period. Through this visit, information obtained mainly from several secondary sources of available publications, books, reports, working papers and policy Documents were consulted. Discussions with Assistant Director of Environment (solid waste management) Mr. Roy Onyango and informal discussion with other experts in SWM assisted in establishing criteria for sampling and in the selection of areas where the survey was to be conducted. Subsequently primary data were collected.

The reconnaissance visit was important because it enabled the researcher establish rapport with key informants and create an atmosphere in which key informants were able to willingly communicate their views and opinions. The visit enabled the researcher make appointments for interviews with key informants and therefore avoided scheduling conflicts.

3.5.1.2 Interview with Key Informants

In total 5 key informants were selected. In Nairobi key informants from the Environmental department in Nairobi City Council (NCC) included the Assistant Director of Environment (Solid Waste Management) Mr. Roy Onyango who is in charge of SWM in the Upper CBD spanning from Moi Avenue to Uhuru Highway and his deputy Mr. Joseph Nyaga who is in Charge of the Lower CBD spanning from Moi Avenue to Lower Kirinyaga road. An official from NEMA who requested for anonymity was also interviewed. An official from NEMA was selected because NEMA is the principal instrument of government in the implementation of all policies relating to the environment, while officials from Environmental department were selected because the Department of environment has an overall responsibility in solid waste management.

The rationale for conducting interviews with key informants was to obtain expert information on PPP in solid waste management, given their knowledge and experience. Key informant interviews involve interviewing a select group of individuals who are likely to provide needed information, ideas, and insights on a particular subject (Kumar, 1989).

On the basis of interviews conducted with a few key informants, the researcher was able to find answers to reasons why PPP was being implemented in Nairobi and how it was being implemented. Because information comes directly from knowledgeable people, key informant interviews provided data and insight that could not be obtained with other methods. Key informants offered confidential information that would not be revealed in other settings. They may tell of incidents, local happenings, or conditions that explain implementation Problems (Kumar, 1989)

Prior to the interview, the researcher briefly explained the purpose of the research project to the interviewees and gave them assurance that the information was not for publication purposes. Assurance of the confidentiality of the information obtained was also given.

The guide for conducting the interviews was developed by the principle researcher to at least allow the researcher to obtain data within the designed scope of the project. The interview guide was used by the researcher to ensure all the relevant areas were covered. The interviews, which lasted approximately 40 minutes each, started with a basic introduction of research objectives before issues about PPP in solid waste management were discussed. All interviews were conducted in person (face to face) by a researcher, taking notes and probing questions based on what respondents said. Interviews were recorded and transcribed immediately after the interview for further processing and issues requiring clarification were verified with respondents through re-visits.

The research instrument for data collection was semi structured questionnaires. In-depth personal interview was employed because it is an interactive process in which the interviewer initiates a discussion by asking questions (Ploy D., 2009). The use of interview also involved face-to-face situation, between the researcher and the subject (Ploy D., 2009).

3.5.1.3 Interviews with Service Providers

Solid waste contractor selected for interview in Nairobi was purposively sampled from Private Service Providers. Private Service providers were interviewed from the Creative Consolidated Limited who are currently contracted by NCC to collect and dispose garbage in Nairobi. The Manager and his deputy were interviewed together.

Prior to the interview, the interviewees sought permission to proceed with the interview from their 'Boss', Mr. Nyaga. Their office is situated within the same compound at the NCC Lagos Road Offices. The researcher then briefly explained the purpose of the research project to the interviewees and gave them assurance that the information was not for publication purposes and would be treated in confidence. The interviewees sought anonymity and their names are therefore withheld.

The guide for conducting the interviews was developed by the principle researcher to at least enable the researcher to establish why and how PPP is being implemented through the lens of the Service providers. The interview guide was used by the researcher to ensure all the relevant areas were covered. The face to face interview, which lasted approximately one hour, started with a basic introduction of research objectives before issues about PPP in solid waste management were discussed. The Interview was recorded and transcribed immediately after the interview for further processing and issues requiring clarification were verified with respondents through re-visits. The research instrument for data collection was semi structured questionnaires.

3.5.1.4 Interviews with Service Users

Interviews were also conducted with solid waste management service users represented by Property managers and caretakers in areas selected for research. The main objective of these interviews was to acquire information on their knowledge of PPP in solid waste management in the city and establish their views on the solid waste management situation within the study area. The years of residence of the respondents was recorded to ensure that the sample group

had enough background information to compare the period when solid waste was collected only by NCC and the current situation where the private sector is involved.

Screening interviews with 10 questionnaires preceded the survey to define appropriate questions and issues that are potentially important to residents. Comprehensive survey questionnaires with semi structured questions were developed and distributed randomly to the respondents, mainly to Property Managers and Caretakers. This was aimed at determining if the questions were simple, straight forward, and relevant and would enable the researcher accomplish the study objective.

Field assistants who knew the study area well, were employed on part-time basis and trained by the researcher in both approaching the respondents to elicit their participation and monitoring the completion of the questionnaires. The researcher assumed a supervisory role in monitoring the fieldworkers thereby ensuring that only respondents who were targeted participated

Service users were randomly interviewed from each SWM zone to indicate their opinion about SWM, to compare between current services and those previously offered by the public sector, and to indicate whether they consider PPP a successful experience or not. A total of 100 questionnaires were distributed, of which 90 were completed and returned.

3.6 Data Analysis and Presentation

3.6.1 Data collected from Key informants

Data collected from interviews with Key informants were processed and edited as follows: these data were recorded by taking notes, and then transcribed before being analyzed using content analysis. Content analysis is a method for analyzing textual data expressing key ideas, phrases and meanings in answers given to interview questions (Weber, 1990).

The researcher prepared a summary sheet comprising of the main findings of the interviews done with each Key informants. These were then compared for similarities and differences in opinion expressed.

To handle data carefully, questionnaires were delivered to the Key informants prior to the interview. During the discussions notes were recorded by the researcher, and the interview was also voice recorded. This enabled comparison of notes and therefore enhanced the reliability. Personal judgments, comments from experts, and results from interviews were also used as a basis for the analysis and interpretation of the information

3.6.2 Data collected from service users

A total of 100 questionnaires were distributed, of which 90 were completed and returned. The collected data was organized and cleaned of errors made during data collection, coded systematically and analyzed following a univariate statistical analysis, which comprises frequency distribution and per centages using the Statistical Package for Social Sciences (SPSS). Some of the questions allowed respondents to give more than one answer. Each of these responses was coded as separate variables and then grouped under a multiple response set of variables. These were then analysed using multiple response analysis and presented on frequency tables. The results of analysis was presented and interpreted in the form of descriptive statistics. The findings are presented in tables, per centages and pie charts. This method of data presentation is more tangible and visible and best demonstrates the quality of solid waste management services provided by NCC and the effect of on SWM upon entry of PPP. Qualitative data was presented in prose.

3.7 Data Reliability and Validity

To ensure that data collected during field work is reliable, more than one research tool was used. Semi-structured interviews of organizations involved in providing SWM services were conducted. Review of relevant secondary data such as reports, was also conducted for additional information, and verification of response from interviews.

Validity of data collected was facilitated through designing appropriate questions for the questionnaire and interviews. The questions were framed within the context of developed indicators, for each of the research questions. The questions were shared with the supervisors for review and comments, and appropriate adjustments or revisions made.

3.8 Limitations

Lack of updated records at the NCC was a major challenge to the researcher. Similarly some of the Key informants were very busy and therefore the interview was interrupted several times distorting the information flow.

3.9 Ethical considerations

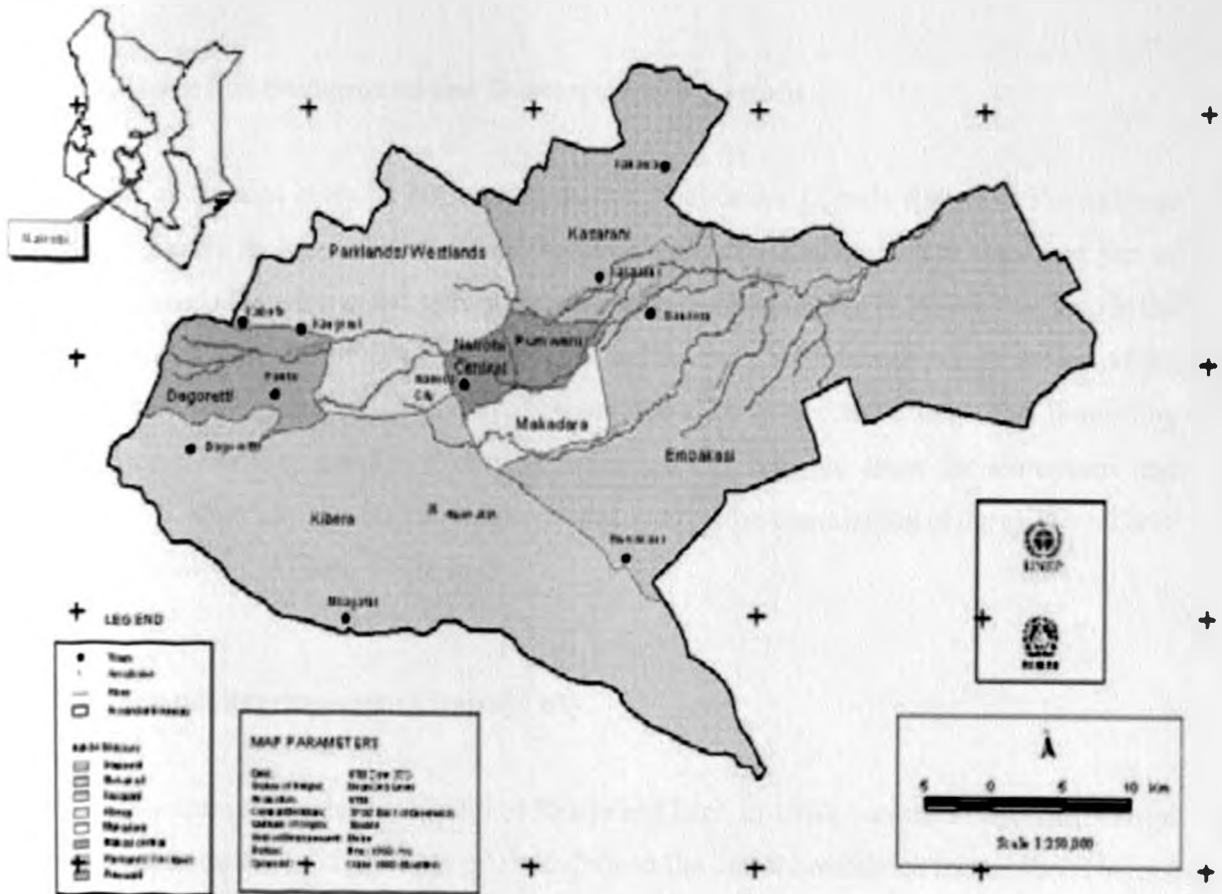
Authorization was obtained from the University prior to carrying out the study. The researcher further gave assurance to the respondents regarding confidentiality of the information obtained and that this information was purely for academic purposes. The researcher visited the NCC to seek permission to conduct interviews and issue questionnaires to the respondents. To obtain accurate information through interviews, the researcher required to obtain the maximum co-operation from the respondents (Mugenda and Mugenda, 1999). In this study, the researcher established a friendly relationship with the respondents by assuring them on the confidentiality when answering the questionnaires. This enabled the respondents to provide the researcher with all the information required. The respondents were not expected to write their names on the questionnaires.

3.10 The Case Study Area

Nairobi is the capital of the Republic of Kenya and the largest administrative, commercial and industrial center of the country. It produces over 60 per cent of the country's GDP (City Council of Nairobi, 2006). Nairobi is also the center of education and culture, besides also being the world headquarters of two United Nations agencies, the United Nations Centre for Human Settlements (UN-Habitat) and United Nations Environmental Program (UNEP). In addition it houses regional offices of other United Nations agencies including United Nations Industrial Development Organization (UNIDO), United Nations Development Programme (UNDP), United Nations Scientific and Cultural Organization (UNESCO). This strategic international location reinforces Nairobi's importance as a diplomatic, commercial and cultural center in Africa (City Council of Nairobi, 2005).

Nairobi occupies an area of 696.1 square kilometers (0.1 per cent of Kenya's total surface area) and is also a centre of industry. A recent national population census estimated the population of Nairobi to be 3.14 million, with a density of 4,515 (Republic of Kenya, 2010a).

The study was conducted within the CBD of Nairobi City County (NCC). The reason for carrying out this study was to enable the researcher carry out a thorough study on why and how PPP for solid waste management is practiced by the Nairobi City County and the outcome of these arrangements.



Map 3.1: Map of Nairobi

Source: City Of Nairobi Environment Outlook, NCC, 2007

3.10.1 Location of Nairobi

Nairobi lies at the southern end of Kenya's agricultural heartland, 1.19 degrees south of the Equator and 36.59 degrees east of the Prime Meridian 70. Its altitude is between 1600 and 1850 metres above sea level. The climate displayed is generally a temperate tropical climate, with cool evenings and mornings becoming distinctly cold during the rainy seasons. Long rains fall between April and June, while the short rains are received in November and early December. Nairobi has a constant 12 hours of daylight all year round. Average daily temperatures range from 29 degrees Centigrade in the dry season to 24 degrees Centigrade during the rest of the year.

3.10.2 Historical Background and Development of Nairobi

The City of Nairobi owes its birth and growth to the Kenya Uganda Railway. The railhead reached Nairobi in May 1899 "enroute" to the present day Kisumu, which was then part of what is Uganda. Moving of the railway headquarters from Mombasa to Nairobi resulted in the subsequent growth of Nairobi as a commercial and business hub of the then British East Africa protectorate (Situma, 1992). By 1900, Nairobi had already become a large and flourishing settlement consisting mainly of railway buildings and separate areas for Europeans and Indians, the latter being mainly the laborers employed on the construction of the railway. There was practically no African settlement.

3.10.3 Spatial development of Nairobi city

In 1907, Nairobi was made the capital of Kenya and later, in 1950, became a city. The Nairobi Municipal Committee Regulations of 1960 defined the initial boundaries for the then Nairobi town. These, at that time defined the boundaries of the town as: "The area within a radius of one and a half miles from the offices of the sub-commissioner of the then Ukambani Province (Morgan, 1967: in Obudho and Aduwo, 1992)."

The boundary of Nairobi was in 1927 extended to cover 30 square miles as a result mainly of the rapid growth of the urban centre both in terms of population and infrastructure. From 1928 up to 1963, this boundary remained the same, although with minor additions and excisions taking place. In 1963, the boundary of Nairobi was extended to cover an area of approximately 266 square miles (approximately 684 square kilometers). Although there have not been any boundary changes since 1963, efforts are currently underway to create a larger planning entity, to be referred to as the Greater Nairobi Metropolitan Area. This area will cover approximately 3000 square Kilometers (Aligula et al, 2005).

From its early times, emerging spatial patterns in Nairobi showed segregation between the Central Business District (CBD) together with European, Asian and African residential areas. By 1963, Africans who formed a major part of the population lived in the eastern part of Nairobi, while the Europeans and Asians lived in the western suburbs, which had access to better services. This position is reflected today not so much in terms of race, but rather in terms of incomes and population densities (Aligula, 2005).

3.10.4 Demographics and Employment

The city of Nairobi has a population of more than 3 million people and hosts about 25 per cent of Kenya's urban population. Nairobi's population is rapidly rising, and is projected to reach approximately 9 million persons by the year 2030, if the current growth and settlement patterns are maintained (UNCHS 2001).

Nairobi provides a significant proportion of employment, reflecting its dominance of the economic affairs of the country. It accounts for approximately 25 per cent of the formal or informal sector employment in Kenya. However, according to the 1999 population census, Nairobi accounted for only 7.28 per cent of the national population. The privatization and restructuring programmes of the 1990's may have had an influence on the employment potential within Nairobi, as reflected in the poverty profile of Nairobi which shows up to 56

per cent of the population living in informal settlements where the various dimensions of poverty are starkly evident (Aligula, 2005).

3.10.5 Nairobi City County Government and Operations

The Nairobi City County is the creation of the Constitution of Kenya 2010 and successor of the defunct City Council of Nairobi. It operates under the auspices of the Cities and Urban Areas Act, The Devolved Governments Act and a host of other Acts.

The Nairobi City County is charged with the responsibility of providing a variety of services to residents within its area of jurisdiction. These include the services that were hitherto provided by the defunct City Council comprising of Physical Planning, Public Health, Social Services and Housing, Primary Education Infrastructure, Inspectorate Services, Public Works, Environment Management and those that have been transferred from the national government such as Agriculture, Livestock Development and Fisheries, Trade, Industrialization, Corporate Development, Tourism and Wildlife, Public Service Management

The Nairobi City County, in execution of responsibilities and functions bestowed upon it by the above Acts has been divided into three arms as follows:-

The Executive Arm: Led by the Governor and the Deputy Governor, The Executive arm of the County is charged with the responsibility of policy formulation. Within this arm we have the County Public Service Board, the County Executive Committee, the City Inspectorate, County Investigations and Information Analysis departments and a host of advisories

The Legislative Arm: Also known as the County Assembly, it is the legislative arm of the County responsible for formulation of laws that are expected to regulate the conduct of activities in the county and to provide oversight. The legislature comprises of 85 elected and 42 nominated members of the county assembly who sit in the various committees of the county assembly. Legislation is conducted through committees where bills are presented culminating in the plenary assembly where the bills are concluded before being signed into law by the

Governor. The Speaker is the head of the legislature and is expected to conduct all sittings of the county assembly, save for standing committee meetings

The County Public Service Board: This board is appointed by the Governor and is responsible for the determination of the County Human Resource needs recruitment and related Public Service functions. The board is under the charge of the chairman supported by various committee members.

The County operations: These are divided into the following sectors for ease of management:-

1. Education, Youth Affairs, Culture, Children and Social Services Sector
2. Health Services Sector
3. Information, Communication and E-Government Sector(deals with Dissemination of public information and Public Participation)
4. Public Services Management Sector (deals with Procurement services and Performance management and public services innovation)
5. Lands, Housing and Physical Planning Sector (The City Planning department resides therein)
6. Public Works, Road and Transport Sector
7. Trade, Industrialization, Cooperative Development, Tourism and Wildlife Sector
8. Water, Energy, Forestry, Environment and Natural Resources Sector (Solid Waste Department resides therein)
9. Finance and Economic Planning Sector (Deals also with Budget co-ordination and control; County revenue, expenditure and Borrowing; Public Private Partnership)
10. Agriculture, Livestock and Development Fisheries Sector

The Nairobi City County is a service provision outfit larger in structure than the defunct City Council of Nairobi.

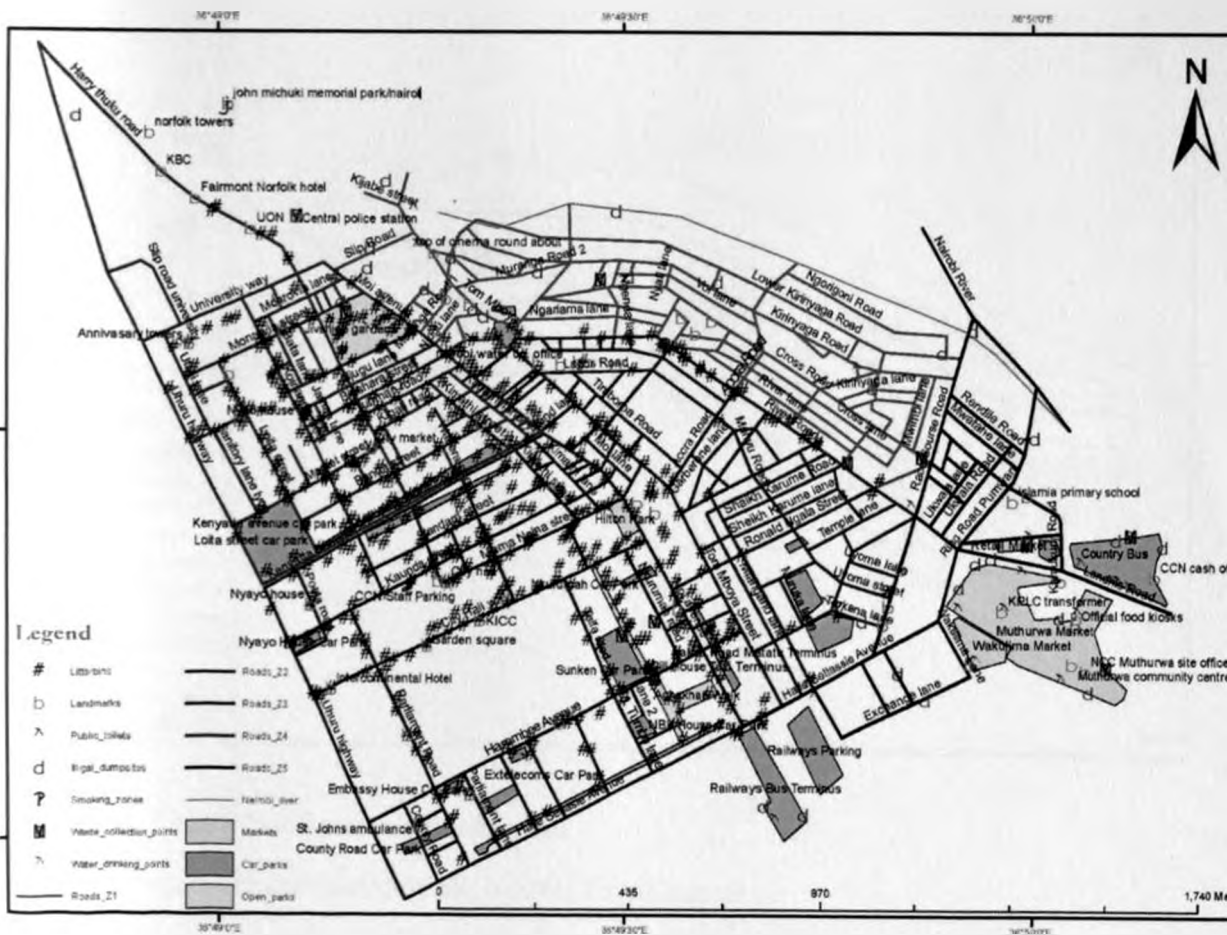


Figure 3.1: Clean up in the city

Source, City County website accessed in the internet

3.11 Waste Management Zones in the CBD

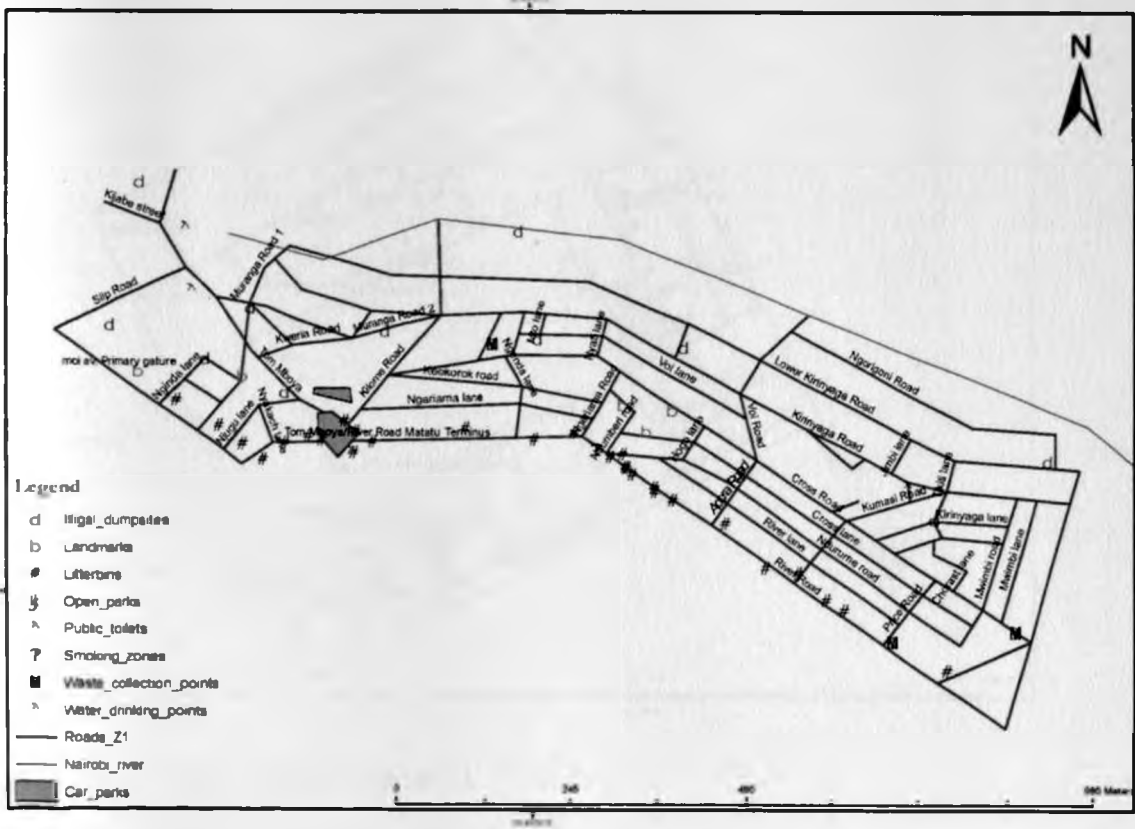
The CBD is enclosed by the Uhuru Highway, Haile Sellassie Avenue, Ring Road, Ngara, Nairobi River and Harry Thuku Road (Map 3.2). It measures approximately 2.6 Square Kilometers. For purposes of SWM, it is zoned into seven areas. Each zone map shows official dumping sites marked 'M', evidence of illegal dumpsites marked 'd' and the location of litter bins.



Map 3.2: CBD Solid waste management map

Source: Department of Environment, Nairobi City Council

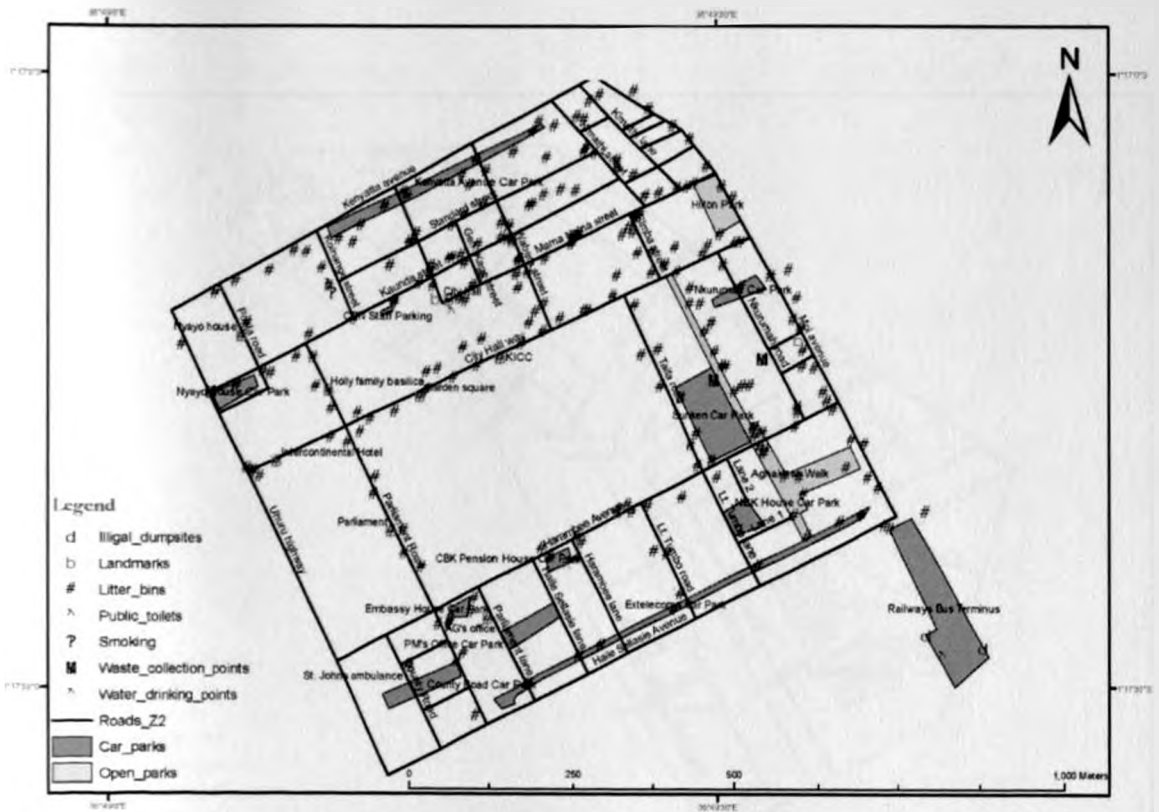
Zone 1 (Map 3.3) is the area bordered by the Nairobi River to the North, Racecourse road to the east, River Road and Tom Mboya Street to the South , Part of Moi Avenue and back to Nairobi River through Slip Road. There are 3 waste collection points in this zone and 23 Litterbins in this zone, but with 6 illegal dumpsites.



Map 3.3: Zone 1 Solid waste management

Source: Department of Environment, Nairobi City Council

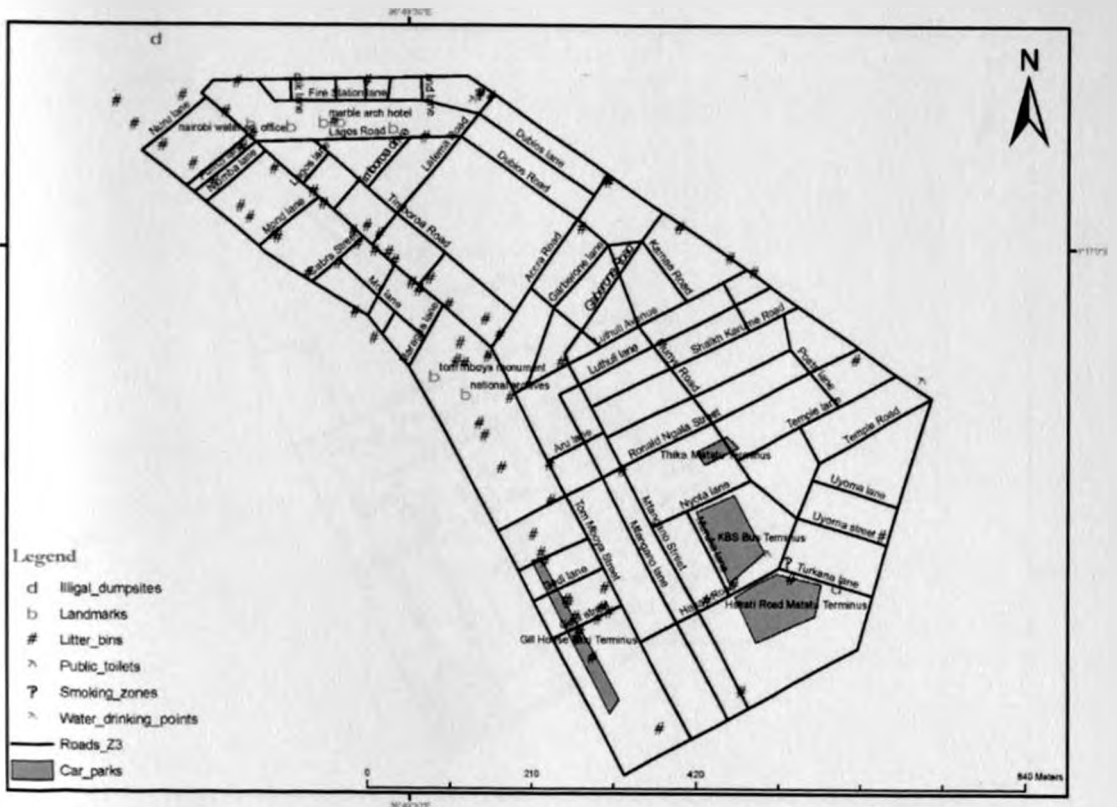
Zone 2 (Map 3.4) is defined by Kenyatta Avenue to the North, Moi Avenue to the east, Haile Sellasie Avenue to the South and Uhuru Highway to the west. The Railway Bus Terminus is also within this zone. The zone has 2 waste collection points, numerous litterbins and evidence of 2 illegal dumpsites



Map 3.4: Zone 2 Solid waste management

Source: Department of Environment, Nairobi City Council

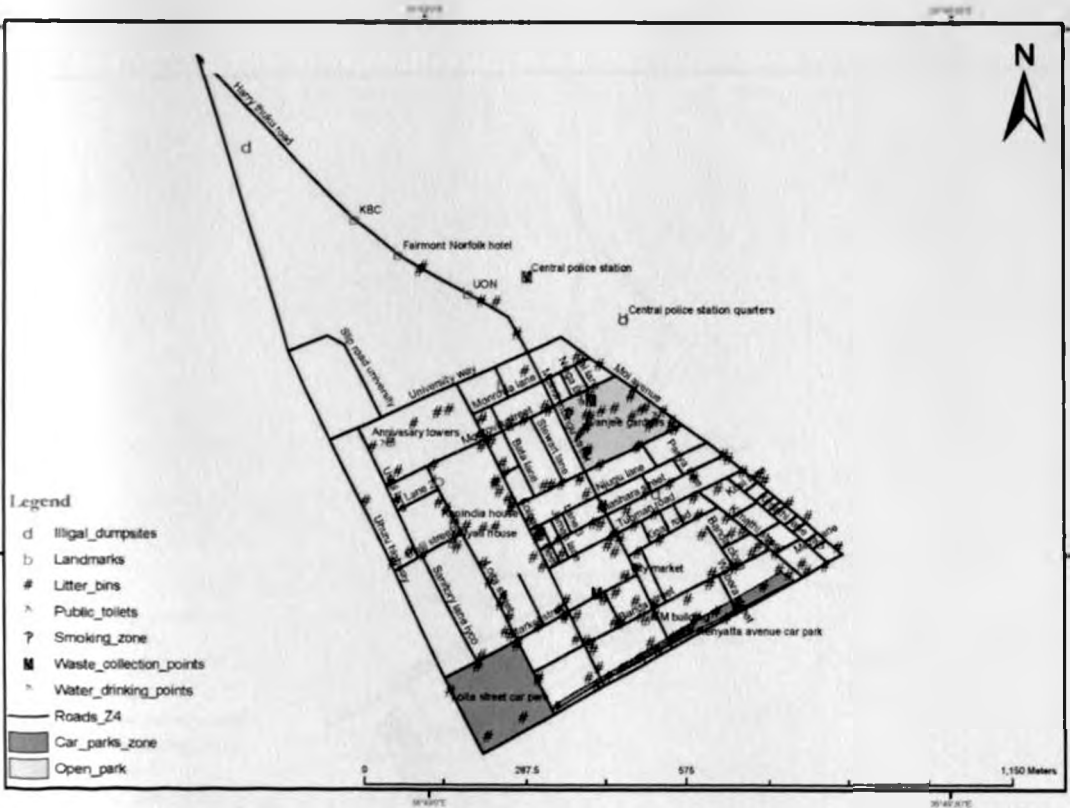
Zone 3 (Map 3.5) is defined by Nuru Lane to the North, River Road to the West, Race Course Road and Haile Sellasie Avenue to the South and Moi Avenue to the East. The NCC Superintendent's office is situated within this zone. The zone no waste collection point but has evidence of along Turkana Lane and numerous litterbins.



Map 3.5: Zone 3 Solid waste management

Source: Department of Environment, Nairobi City Council

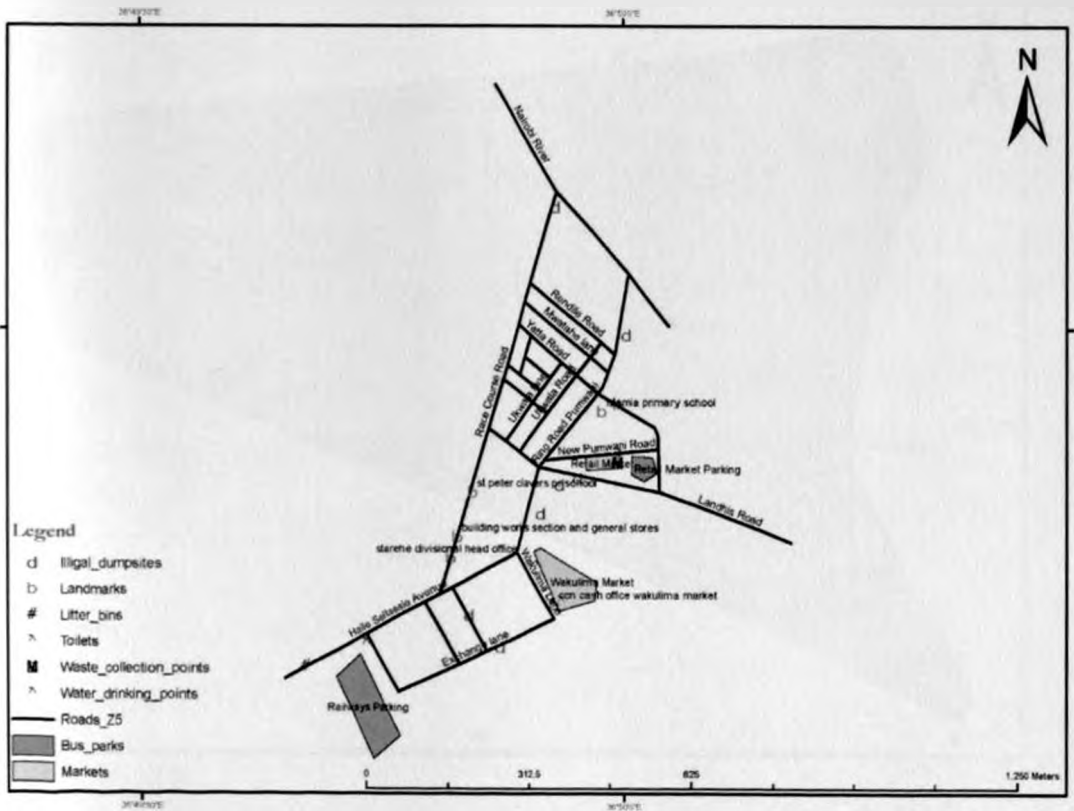
Zone 4 (Map 3.6) is defined by Moi Avenue to the West, Kenyatta Avenue to the south, Uhuru Highway to the west which meets with Harry Thuku road at the extreme North. This zone houses the Jivanjee Gardens and has two waste collection points and evidence of two illegal dumpsites.



Map 3.6: Zone 4 Solid waste management

Source: Department of Environment, Nairobi City Council

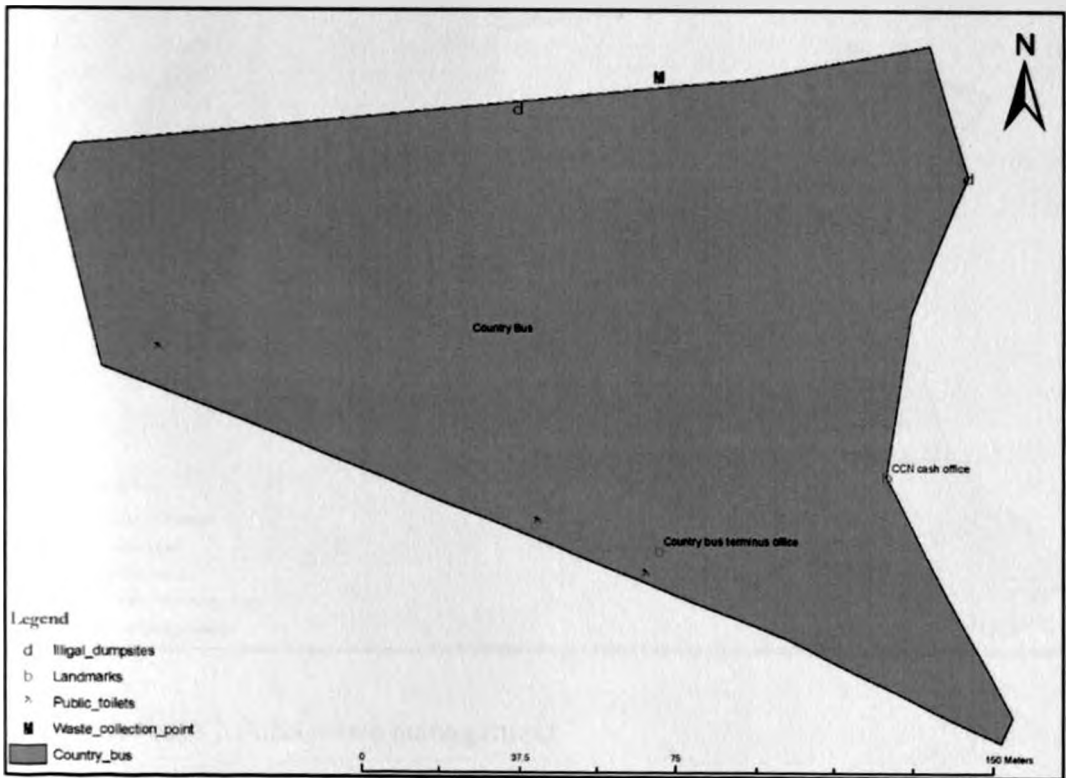
Zone 5 (Map 3.7) is smaller in comparison to the rest of the zones. It is defined by Race course road to the west, part of Haile Sellasie Avenue and exchange lane to the south, Ring Road Pumwani to the east and the Nairobi River to the north. Part of this zone falls outside the CBD and is therefore not within the scope of this study. Surprisingly, this zone has one collection point and evidence of 5 illegal dumpsites.



Map 3.7: Zone 5 Solid waste management

Source: Department of Environment, Nairobi City Council

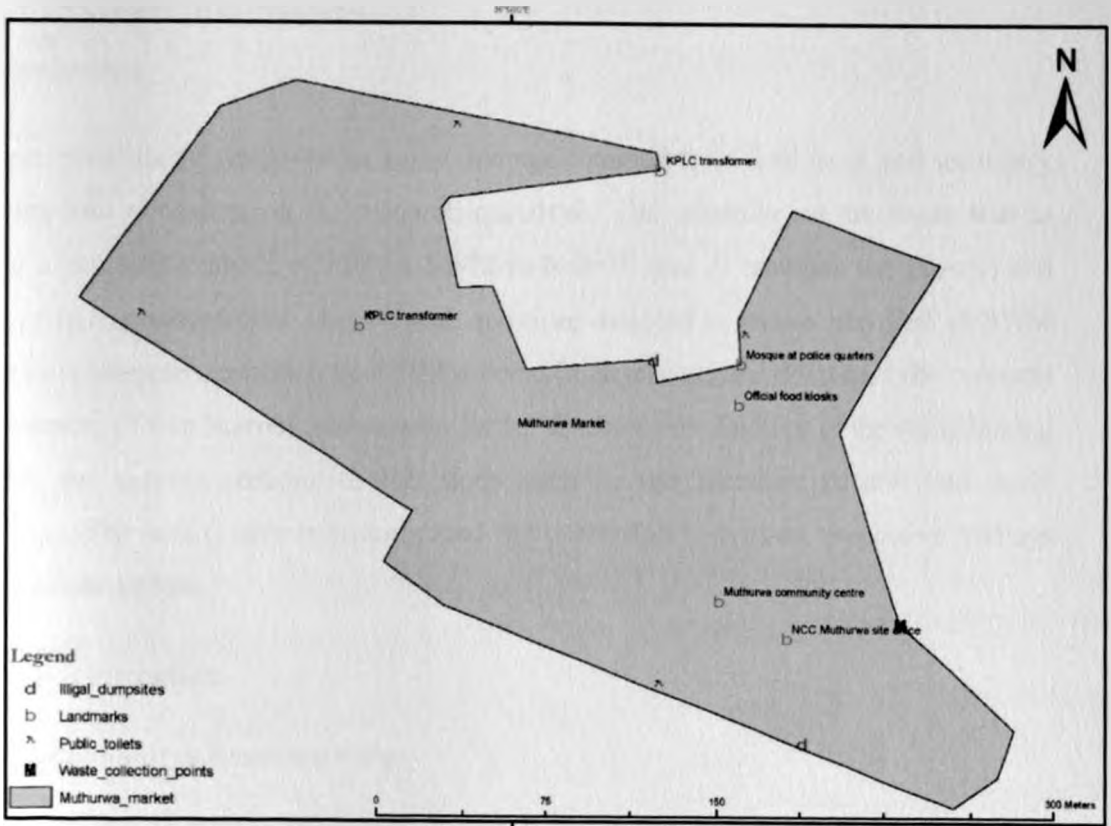
Zone 6 (Map 3.8) covers the Country Bus Station. It has one waste collection point and one illegal dumpsite. This zone falls outside the CBD and is therefore not within the scope of this study.



Map 3.8: Zone 6 Solid waste management

Source: Department of Environment, Nairobi City Council

Zone 7 (Map 3.9) comprises of Muthurwa and Wakulima Markets. This zone has one waste collection point and two dumpsites. This zone falls outside the CBD and is therefore not within the scope of this study



Map 3.9: Zone 7 Solid waste management

Source: Department of Environment, Nairobi City Council.

CHAPTER FOUR

4 RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the results of the study findings obtained from field work and secondary data, taking into consideration the research questions. The objective of the study was to undertake a situation analysis of PPP in SWM in Nairobi and to establish the process and outcome of its implementation. The research questions directed to review why PPP in SWM in is being implemented, establish how PPP is being implemented and document the outcome of implementing PPP in Nairobi. The chapter further discusses the findings of the study linking them with the various sections of the study such as the literature review and study methodology. The results have been compared and contrasted with other supportive findings and studies done before.

4.2 Basic Information

4.2.1 Questionnaires Response Rate

Interviews with Key Informants from the local authority yielded a response rate of 60 per cent (3 respondents out of the 5 questionnaires distributed). The response rate for Key Informants from the formal private service providers was 50 per cent (from 2 respondents out of 4 questionnaires distributed). The study was also able to yield a response rate of 90 per cent (90 out of 100 questionnaires distributed) from service users, mainly property managers, caretakers and pedestrians.

4.2.2 Years of Residence

Almost 50 per cent of the service users interviewed have been residents of Nairobi for over ten years with only 2.2 per cent having resided at the Premise for less than 5 years (Table 4.1). This means the sample group had enough background information to compare the period when solid waste was collected only by the defunct CCN and the current situation where the private service providers are involved.

Table 4.1: Years of residence

		Frequency	Per cent	Valid cent	Per Cumulative Per cent
Valid	Less than 5 years	2	2.2	2.5	2.5
	0-5 years	8	8.9	10	12.5
	5-10 years	23	25.6	28.8	41.3
	More than 10 years	47	52.2	58.8	100
	Total	80	88.9	100	
Missing	System	10	11.1		
Total		90	100		

4.3 Review of PPP in Solid Waste Management in Nairobi

In Nairobi, like all other cities discussed in the literature review in chapter two above, the local authorities were charged with the responsibility of providing services to its residents. However, they experienced challenges that led to a decline in provision of solid waste management services and the rise of private service providers. Surprisingly, according to the research, both the local authorities and the service users accept the need to embrace the private sector in the form of PPP.

The Model of PPP adopted by NCC is a Service Contract model, where the public body contracts the private service provider to provide services at agreed contract terms. The contract is usually for a term less than 5 years, as shown in Figure 2.1. The PSP is paid for services rendered on agreed terms.

The first objective of the study was to undertake a situation analysis of PPP in SWM in Nairobi. The study sought to establish if PPP in SWM existed in Nairobi and find out why it is being implemented.

4.3.1 Evidence of PPP in SWM in Nairobi

When asked whether they have knowledge of the private parties involved with garbage collection, 62.2 Per Cent of the respondents acknowledged the presence of Private Firms (Table 4.2). In this case, formal private sector is involved. According to Literature, this refers to "private sector corporations, institutions, firms and individuals, operating registered and/or incorporated businesses with official business licenses, an organized labour force governed by labour laws, some degree of capital investment, and generally modern technology" (Furedy, 1992).

The fact that 62.2 per cent say that they served by private service providers does not however confirm that there is partnership between the public and private sector.

Table 4.2: Collection of solid waste

	Frequency	Per cent
City authority	31	34.4
Private firm	56	62.2
Missing	3	3.4
Total	90	100

4.3.2 Reasons for implementation of PPP in SWM

The study established that Private sector participation in providing solid waste services started as a response to major failures of service delivery by the public sector (UNESCAP, 2011). The study revealed that NCC faced challenges in various areas that led to gaps in solid waste management. These challenges are listed and discussed below. These challenges are however not unique to Nairobi as they compare favorably with those of other cities as established in the secondary data reviewed. The challenges are discussed below:-

4.3.2.1 Non Collection and Negligence

Financial Constraints and poor budget allocation, non -collection and negligence and illegal dumping were quoted by most respondents as a major SW problems in the city (Fig. 4.1).

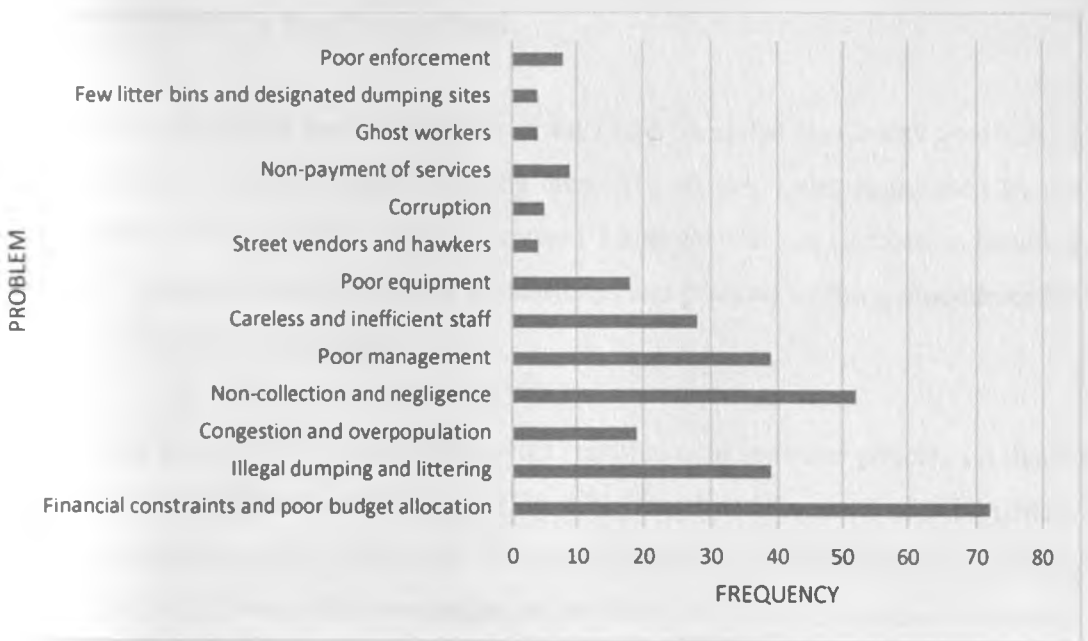


Figure 4.1: SWM Problems

Note: Each respondent identified the problem(s) they thought hindered waste collection and was allowed to list as many problems as possible.

These results are not surprising. There is no dedicated budget for SWM. NCC has to pay its bloated workforce first to avoid strikes, leaving little resources for SWM. This affects fleet maintenance the increase in non-collection.

4.3.2.2 *Illegal Dumping and Littering*

Illegal dumping and littering were also cited in 48 per cent of the cases as SWM problems (Fig. 4.1). Illegal dumping sites can also be seen in Maps 3.2 to 3.9 in Chapter three in each of the seven solid waste management zones. According to JICA, 2010, there are 74 illegal dumpsites spread commonly in areas around markets (JICA 2010)

Key informants from NCC attributed this to gaps in legal framework and Poor enforcement of laws. They cited lack of tailor-made detailed regulation for SWM which led to weak monitoring and enforcement. The PSP deemed lack of public awareness on illegal dumping as having contributed to SWM problems. Some of the service users felt that perpetrators of illegal dumping and littering went largely unpunished.

From Interviews with private service providers it was established that the County government lacked the capacity to enforce illegal dumping laws. The situation was aggravated by the presence of street urchins. In their view, government's intervention was required in handling street urchins. They added that the lack of standardized and planned working procedures led to weak monitoring and enforcement.

The service users had contrary opinion about NCC enforcement laws and policies on illegal dumping. They perceived them to be adequate (Fig. 4.2). They cited the presence of regulatory framework and visibility of law enforcers. This could probably be attributed to the glaring presence of City Inspectorate officers who harass law breakers or because of the location of their business which may be situated along main streets which have no illegal dumpsites.

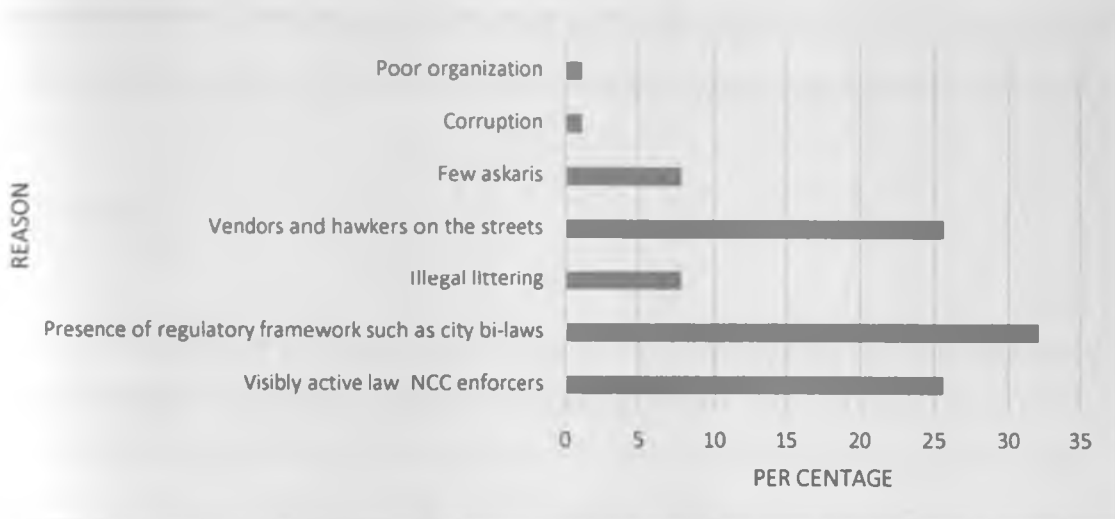


Figure 4.2: Opinion on Enforcement of Law

According to literature, laws governing MSW exist in NEMA. NEMA establishes provisions in the Environment Management and Coordination Act (EMCA) that deals with parties failing to comply. The Act provides guidelines and discourages open uncontrolled waste incinerations. Further, in accordance with EMCA, NEMA calls on the county's environment committees, manufacturers and garbage handlers to leadership provision in the implementation and enforcing the plan of action on solid waste situation. However, these laws have been rendered ineffectual as they have been largely ignored (Henry et al, 2006).

According to Key informants, Nairobi anti-dumping laws exist. However, it lacks enforcement. The inspectorate department that is mandated to enforce them is challenged with less manpower, resources and coordination with other departments.

4.3.2.3 Congestion

Interviews with the service providers identified the main challenges to waste management as human and vehicular congestion. This is attributed to the presence of hawkers and street urchins all over the CBD, including the normal public population who litter the CBD. In their view, heavy presence of vehicles and hawkers made the streets in CBD inaccessible in addition to limiting space for moving the garbage trolleys. In addition to congestion, the

respondents added that the presence of hawkers and street urchins led to insecurity at the night. This made areas that could be cleaned at night with the reduced congestion inaccessible.

4.3.2.4 Finance

As can be seen from Figure 4.1, 72 per cent of the respondents named financial constraints and poor budget allocation as the key contributors to SWM problems. Key informants from NCC interviewed attributed this to lack of funds. Sources of funds for SWM were largely from the Local Authority Transfer Fund (LATF), CCN's internal budget and User fees which were insufficient for SWM according to the respondents. The budget provision for the department catered for salaries and maintenance of fleet. There was overstaffing, duplication of responsibilities and lack of standardized and planned working procedures in the Key informant's views, insufficient budget affected human resource development and training programs therefore affecting staff morale and motivation. Delay in staff wages also led to frequent strikes, leading to deterioration of service provision.

Insufficient budget was also blamed for reduced number of serviceable equipment due to poor maintenance although the Procurement process was also said to be complicated and lengthy. The Key informants said that the defunct CCN owned more than 200 tracks before 1996. The fleet had however reduced seriously due to lack of maintenance and replenishment as a result of lack of funds.

Furthermore, there was no dedicated budget for SWM. The first PPP arrangement with Kenya Refuse Handlers failed because NCC did not meet its financial obligation. Surprisingly, the study revealed that NCC had opened a specific bank account where money allocated for SWM purposes as well as money collected from the service users for this purpose will be deposited. It is therefore expected that there will be funds dedicated for SWM purposes going forward. According to the current service provider, CCL, the company is paid according to the contract signed although they sometimes experience delays in payment.

The situation in Nairobi is similar to Dar es Salaam where DCC's failure to manage solid waste was due to lack of financial resources which led to lack of and poor maintenance of equipment, facing other countries in the literature review.

4.3.2.5 NCC's Performance on SWM

The survey showed that 64.4 per cent of the respondents rated NCC's solid waste service provisioning very poorly (Fig 4.3). Only 3.3 per cent thought that NCC's performance was good.

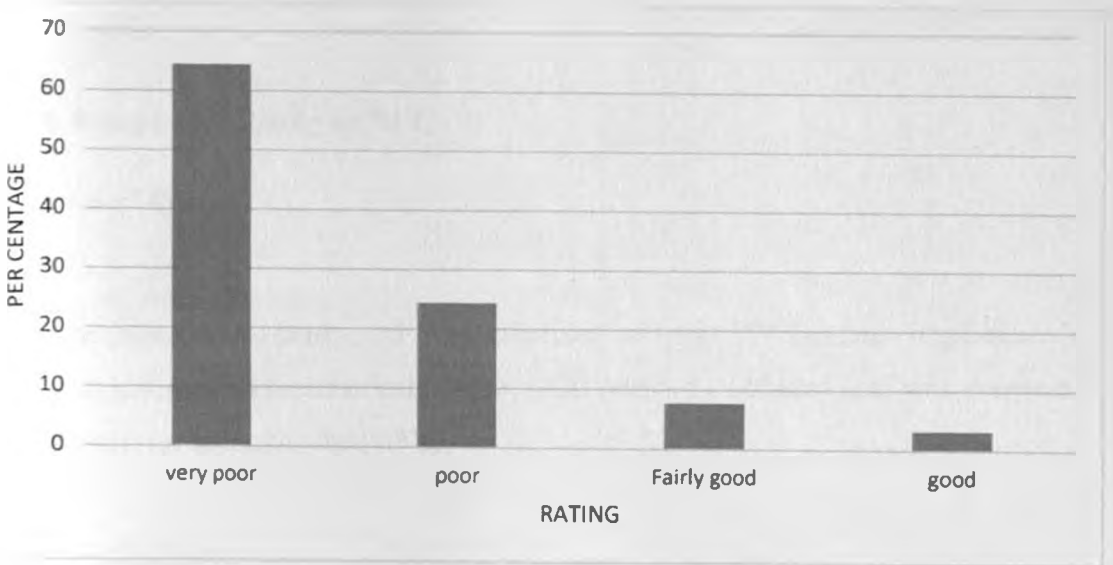


Figure 4.3: Rating of NCC on SWM

The main reason given by 36.7 per cent of those interviewed for poor performance was mismanagement. A further 29.5 per cent attributed it to poor coordination (Fig 4.4).

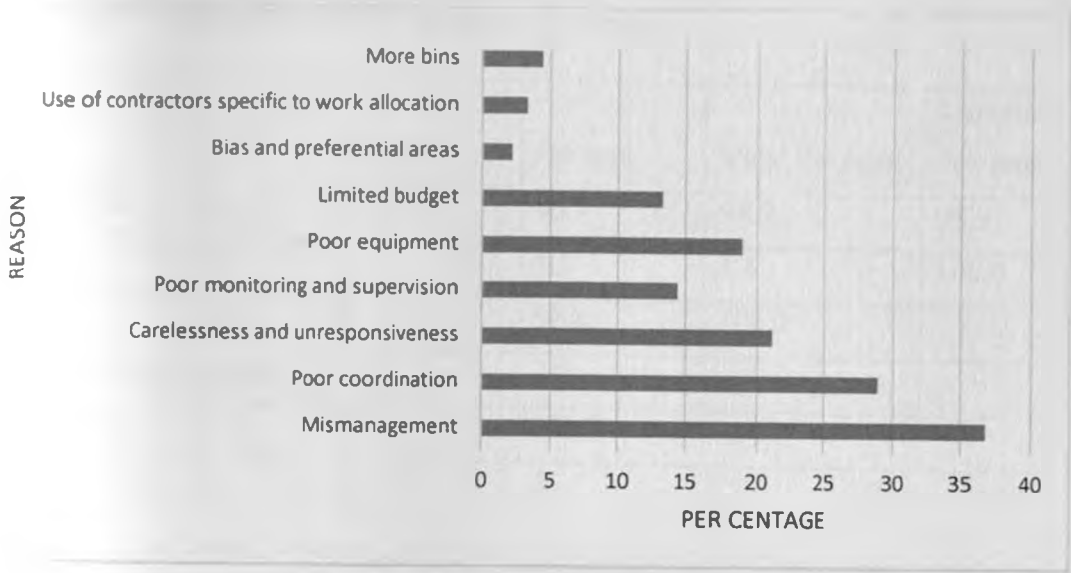


Figure 4.4: Reasons for Rating on NCC

4.3.2.6 Political Reason

Despite of the issues raised below, one Key informant said that PPP has been implemented purely for political reasons because, in his view, NCC retained its bloated staff who continue providing the service alongside the PSP's.

4.3.2.7 Why PPP Model is Suitable/Not Suitable for Nairobi

The study revealed that 98.9 per cent of the respondents perceived PPP model suitable for Nairobi (Table 4.3).

Table 4.3: Suitability of PPP model for Nairobi

		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	Yes	87	96.7	98.9	98.9
	No	1	1.1	1.1	100.0
	Total	88	97.8	100.0	
Missing	System	2	2.2		
Total		90	100.0		

Reasons given by service users on why they thought that PPP model was suitable varied. 46.7 per cent of the respondents said that PPP have better organization and management, evidenced by enhanced collection of waste in terms of volumes and frequency of collection (Fig 4.5). This result was expected because according to Literature these are some of the advantages of PPP.

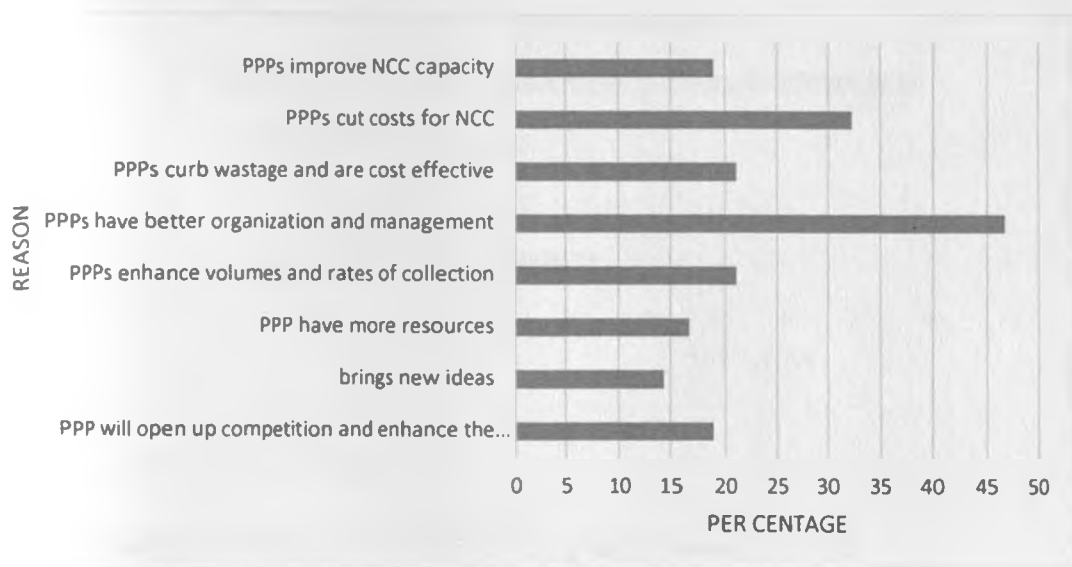


Figure 4.5: Why PPP is Suitable Model

Not surprising then, when asked if involvement of the Private Sector in SWM was useful, 97.8 per cent of the respondents perceived involvement of PPP in SWM as useful (Table 4.4)

Table 4.4: If Involvement of private sector in SWM is Useful

		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	Yes	88	97.8	100.0	100.0
Missing	System	2	2.2		
Total		90	100.0		

The reasons given by 59 per cent of the respondents was that PPP are easier to finance and manage. A further 36 per cent said that PPP were are more accountable, carry out better sensitization and that they had better capability in terms of human resource, finance and equipment(Fig 4.6).

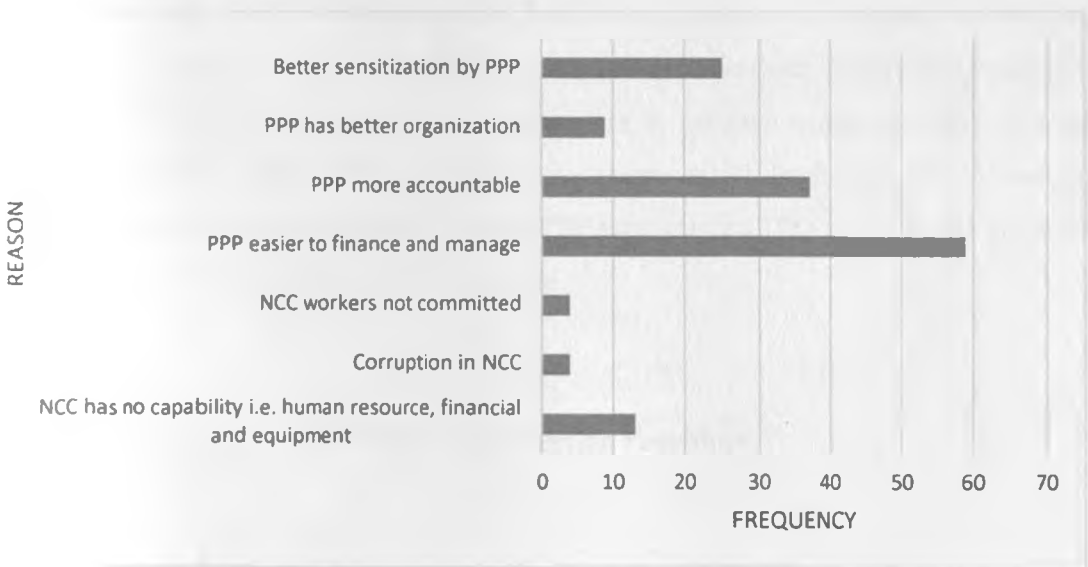


Figure 4.6: Involvement of PSP in SWM

4.3.2.8 Summary of findings on Why PPP is being implemented in SWM.

According to literature, Private sector participation in providing solid waste services started as a response to major failures of service delivery by the public sector (UNESCAP, 2011). In Nairobi, like all other cities discussed in the literature review in Chapter Two, the local authorities were charged with the responsibility of providing services to its residents. However,

they experienced similar challenges ranging from financial to staffing issues. This led to a decline in provision of solid waste management services. The private service providers emerged to fill in these gaps. PPP is acceptable to both the local authorities and the service users.

Private sector service providers are said to be accountable to their customers and are obliged to react to customer dissatisfaction. Cointreau-Levine , 2000). New Public management theory emphasized carrying out of public services by private sectors with structural, organizational and managerial changes. The study agreed with literature to this extent.

4.4 How PPP is being implemented

For many years, Solid Waste sector has had several players. The players in SWM included formal and informal players, operating in uncoordinated manner. To formalize this sector, the defunct CCN licensed private service providers to operate within the city. The informal collectors mostly collected items for recycling purposes. Through competitive bidding, NCC has contracted services of a PSP forming PPP arrangement. The study aimed at establishing how PPP was being implemented in Nairobi.

4.4.1 Engagement of Formal Private Service Providers

According to the study, CCN reviewed their pre-conditions for licensing players within the CBD with a view to bringing sanity to the Solid Waste Management sector. The firms were required to be registered with the Government, obtain NEMA permit and authority letter from NCC Department of Environment. They were also to obtain Garbage collection license and Single business permit from NCC. In order to operate within the CBD, firms were required to have a minimum of 3 compactor vehicles with minimum capacity of 10 tons and not be more than 5 years old. The vehicles were to be covered, clearly branded for solid waste collection and transportation and bear conspicuous firm logo. The firms were to demonstrate a clientele

base of at least 100 subscribers as at June 30th 2013. These conditions applied even to contractors who wished to be licensed to operate within the CBD.



Figure 4.7: A well designed waste transportation vehicle (Source NEMA, 2014)

Literature review established that Competition is the key condition for successful Private Sector Participation (PSP) as it results ultimately in more efficiency and effectiveness. If market imperfections hinder competition and the government is unable to act intelligently, problems ranging from conflicts of interest to fraud can ruin PPP (Awortwi, 2004). The Lebanese government developed a national policy and management plan to find a solution for managing MSW. In Kenya, the Public Procurement Oversight Authority was formed to put sanity to procurement processes. Public Procurement Act, 2005, guided NCC in procuring the services of CCL.

4.4.2 Procurement Process

According to literature, various theories including NPM suggested basic fundamentals required to achieve positive results in PPP. among them, transparent bidding procedures.

Competition was said to be a condition for PSP to be more effective and efficient. The Public Procurement and Disposal Act (2005) (PPOA) provides procedures for efficient public procurement of goods and services. According to the PPOA, Procurement means 'the acquisition by purchase, rental, lease, hire purchase, license, tenancy, franchise, or by any other contractual means of any type of works, assets, services or goods including livestock or any combination'. The Act states that the procurement entity shall use open tendering except for specific times where alternative procedures are allowed.

In adherence to the Public Procurement and Disposal Act (2005), NCC floated an open tender in the local dailies for provision of 'street and other open spaces sweeping, Litter Bin Emptying, Solid Waste Collection and Disposal', in October 2014. The tender was divided into two parts, namely, technical capacity and financial capacity. Under the Technical capacity, firms were checked for compliance on ownership of specified types of vehicles and equipment. Financial capacity requirement checked the firm's ability to manage fleet and human resources. The firms had to demonstrate ability to pay their staff within the credit period before receipt of their dues. In addition to these, it was mandatory for firms to have valid Single business permits, Authority permits from NEMA, Truck inspection reports, Approvals from the Environment Planning and Management Authority and Tax Compliance Certificate from the Kenya Revenue Authority.

The tender was analyzed and a contract awarded to Creative Consolidated Limited in March 2014 vide contract number NCC/T/DOE/066/2013-2014, for a period of one year, revisable. Through this tender, Creative Consolidated Limited (CCL) were contracted to provide SWM services within the CBD. The premises serviced by Creative Consolidated Limited (CCL) include government offices, private enterprises, hotels and government printers. Some of the equipment used includes trucks, trolleys, wheelbarrows, spades, dust pans, brooms and slashers. The service providers use both Manual collection and wheel loaders who are on call 24 hours a day. The respondents from NCC estimated that CCL collects up to 300 tons per day on average. Their running fleet is 100 per cent serviceable through CMC motors. They transport the Garbage to Dandora Dump Site.

4.4.3 Collection of Solid Waste

According to Key informants from NCC, one of the conditions of contract was that waste is collected on a 24 hour basis. From the study, this is only achieved in some parts of the CBD due to insecurity discussed above. The study revealed that the solid waste is collected twice a day for most consumers (Table 4.5).

Table 4.5: Frequency of waste collection per day

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Twice	51	56.7	89.5	89.5
Thrice	6	6.7	10.5	100.0
Total	57	63.3	100.0	

Prior to engagement of PPP, observation and investigation made indicated that most contractor's collection frequency depended on the mechanical condition of their collection trucks and the number of the daily crewmembers (Kaseva and Mbuligwe, 2003). Waste collection was therefore done between 2 and 3 days per week. The frequency established by the study in Table 4.5 shows that there was great improvement on the collection of SW under PPP.

4.4.4 Revenue Collection and Contract Management

The study established that NCC pays CCL according to the tonnage of garbage disposed at Dandora Dump site, with a 30 day credit period. The trucks are weighed at the dump site and details entered into a log book.

According to the study, NCC collects user fees from each building. The charges are stipulated in the Nairobi City County Gazette Supplement No. 7 (Acts No. 2) dated 6th September 2013. To ensure that each building pays user fees, the study established that renewal of single business permit was done upon production of evidence of payment of the User fees. As shown in Figure 4.8, the service users pay for waste collection, with most of the consumers (54.4 per cent) paying more than Kenya Shillings 10,000.00 per month.

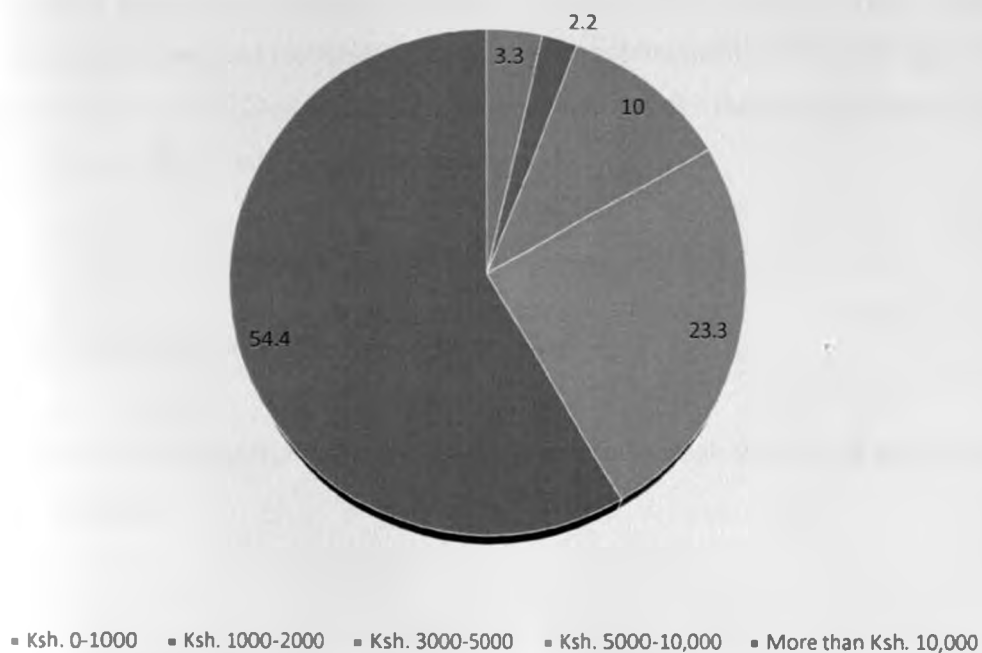


Figure 4.8: Waste Collection Fees

The study found that Creative Consolidated Limited were paid regularly, although they sometimes experienced delay in payment. The delay in payments has therefore not affected their delivery of service. According to literature, previous partnership arrangements with Kenya Refuse Handlers failed due to lack of payment. The study however also established that the service users paid the waste collection charges through service charge to the land lords and not directly as SWM charges payable to NCC.

4.4.5 Performance Management

Performance management is important for evaluating efficiency and service effectiveness. Contractual enforcement cannot be taken for granted (Awortwi, 2004). The study established that performance management is done through the superintendent's office, located on Lagos Road. Each of the seven zones has site offices manned by supervisors, charged with the responsibility of monitoring waste collection and transportation. The supervisors report to the Superintendent's office. There is a performance card which is filled periodically. According to the study, there are weekly meetings scheduled between NCC and the private service provider to discuss progress and matters arising from the implementation of the contract. The Service Providers said that NCC evaluates their performance through the number of trucks and tonnage of solid waste delivered to the disposal site.

4.4.5.1 NCC's Perception on Performance Monitoring

The study established that monitoring was being undertaken through the following activities listed in table 4.6 below.

Table 4.6: NCC's view on performance monitoring

No	Activity	Remarks
1.	Zoning	The CBD is zoned into 7 zones for management purposes
2.	Reports	Done weekly and Monthly given by supervisors on the status of cleanliness and from dumpsite managers on the amount of garbage disposed
3.	Field Work	Periodic field visits for physical inspection purposes.
4.	Performance Monitoring	Use of performance contract templates
5.	Random checks	Conducting unscheduled checks within the zones
6.	Weighbridge Receipts	Production of weighbridge receipts prior to making payments

4.4.5.2 Service Providers Perception

Interview with the Service Providers established that supervision and monitoring measures as well as the legal and institutional status (by laws, regulations, standards on Solid Waste Management) are adequate. There was an enforcement team whose duty is to monitor and enforce waste management standards and legislations on illegal and open dumping. Weekly meetings are held to track performance. The respondents said that NCC promptly informs the service providers of any matters arising and the Service Providers promptly take action. The usage of mobile phones enabled real time information sharing.

During the interview with one of the Key Informants from NCC, the researcher noted the various Phone calls received by the NCC official from complainants about uncollected garbage

and overflowing bins. This information was quickly relayed to the service providers for their prompt action.

4.4.5.3 Service Users Perception

The research sought to establish service provider's opinion on whether NCC had capacity to supervise and monitor the activities of private contractors. According to the study, 55.6 per cent of the respondents answered in the affirmative while 43.3 per cent thought otherwise (Fig 4.9).

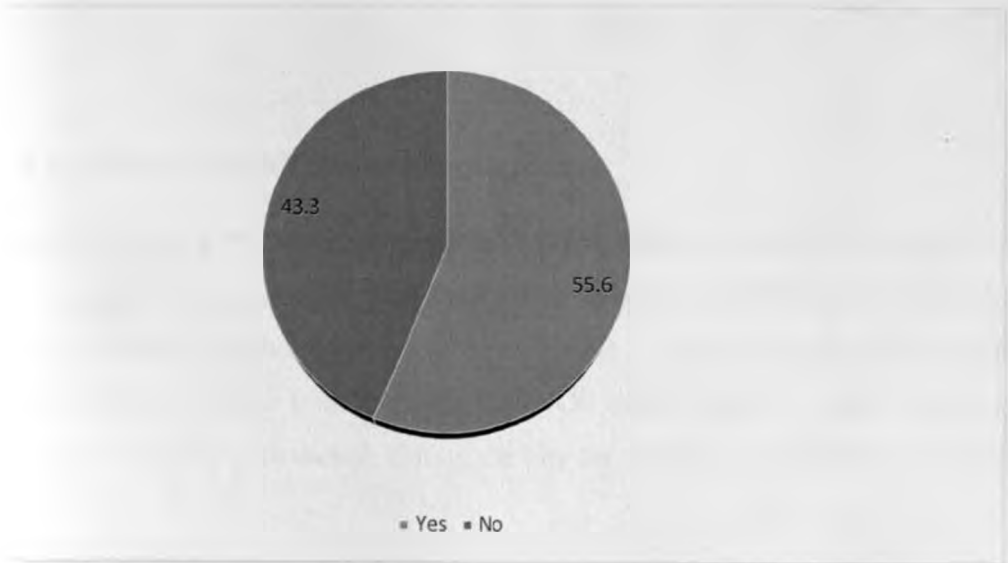


Figure 4.9: NCC Monitoring Capacity

NCC was said to have well defined structures that may be used for supervising private contractors by 33.3 per cent of the respondents. Their ability to supervise private contractors was however hindered by corruption among its staff according to 34 per cent of the respondents (Fig 4.10). From literature review, corruption made monitoring of the private sector exceptionally weak.

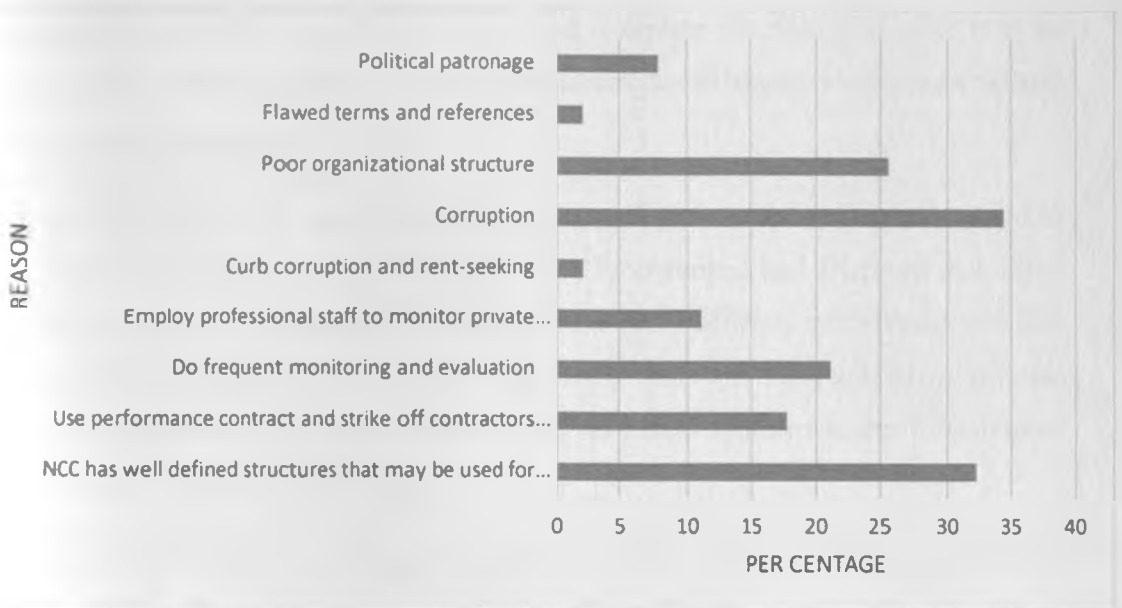


Figure 4.10: Reason for NCC Monitoring Capacity

According to literature, PPP has put pressure on LG to build new capacity to manage agents in ways they have never done before. Only LG's with 'competent professional staff' would be fully able to develop, negotiate, manage, monitor and enforce competent contracts (Kettl, 1993). There is no evidence from the study that NCC built capacity to enable them monitor PPP activities effectively. However, zoning the city for SWM is a positive step towards this end.

4.5 The Outcome of Implementation of PPP in Solid Waste Management

The final objective of the study was to establish the outcome of implementing PPP in SWM in Nairobi

4.5.1 Competition and Contract Management

According to literature, competition is fundamental for successful PPP as it results ultimately in more efficiency and effectiveness. This is achieved through competitive tendering. Highly specific contract terms that establish duties; performance monitoring; rules for changing prices and sanctions hold the key to contractual exchange. Section 34(1) of PPOA states that 'The procurement entity shall prepare specific requirements relating to goods, works or services

being procured that are clear, that give a correct and complete description of what is to be procured and that allow for fair and open competition among those who may wish to participate in the procurement proceedings’

The study established that CCL were competitively sourced through open tender advertised in the local dailies as provided in section 51 of Public Procurement and Disposal Act, 2005 (PPOA). However, CCL’s competitors and some of the NCC officials interviewed said that CCL had political backing and did not win the tender fairly. This was difficult to prove because the tender process was not challenged. None of the bid losers appealed to the Procurement Appeals Board as provided in the PPOA.

In addition, the Key informants interviewed said that they were still in the process of collecting data on the number of businesses operating within the CBD. This should have been done prior to floating the tender. The information would have been important in guiding the tender award to ensure that the winning bid was sufficient for service delivery. It would also guide in estimating the expected revenue that would then enable NCC pay for services rendered in accordance to the contract. CCL have only one year’s contract as a result of lack of this information. The study revealed that although they are paid according to the contract, the payments are sometimes delayed forcing the service providers to seek alternative sources for meeting their contractual obligations.

Although the contract document between CCL and NCC was not seen by the researcher, the study revealed that there was good working relationship within the PPP. This is evidenced by the fact that communication between the two entities flows well. In the beginning, there were weekly meetings. However as the time went by, the study established that the communication between NCC and the Service users is real time and hence the frequent meetings have reduced. The Ghanaian case established that the act of writing a contract was different from the act of implementing it. In Nairobi, the act of implementing the contract appeared to be working quite well.

4.5.2 Assessment of Solid Waste Collection

Literature reviewed established that PPP is expected to improve the quality of service delivery hence ensure that streets are clean, refuse sites devoid of houseflies and rodents. Private

contractors are considered reliable to the extent that users have confidence that their waste will be collected on time (Awortwi, 2004). Literature further stated that effectiveness was tested by looking at the actual frequency of collection and cleanliness of the service. Case studies done in Lebanon, Ghana and Dar-es-Salaam, established that involvement of PSP's greatly contributed to improved services. In Lebanon, the collection frequency was 2 to 3 times for the private sector compared to once per day for the public sector. Although the frequency of waste collection improved in Dar es Salaam, this depended on availability of trucks which had mechanical problems.

The study established that the frequency of collection in Nairobi had improved with 89.5 per cent of the respondents saying that it is done twice a day (Table 4.5). The service providers confirmed that they had adhered to the terms of contract and therefore had sufficient, mechanically sound vehicle which were less than 5 years old. Collection of Solid Waste would further be improved if the issue of street urchins was addressed. This would improve the security situation and therefore enable the service providers collect waste at night when the streets are less congested.

4.5.2.1 Opinion on the State of Cleanliness of the Streets in Nairobi

Figure 4.11 shows that 24 per cent of the respondents felt that the cleanliness of the streets is fairly good. Only 2 per cent of the respondents said that it was poor.



Figure 4.11: Opinion on Street Cleanliness

4.5.2.2 Opinion on How the State of Street Cleanliness can be improved

Respondents suggested that employment of more cleaning services personnel and increasing the number of litter bins and collection points in some parts of the CBD would improve cleanliness. Others suggested that street to street supervision would also help. At the moment there are some streets that are evidently cleaner than others. As shown in the Zone Maps in Chapter 3, some streets had evidence of illegal dumping. Most of these sites are situated in back streets, some of which are infiltrated by street urchins making them ‘no-go’ areas due to insecurity.

The respondents also felt that there was need to create public awareness on responsible handling of waste. Although NCC has installed infrastructure such as garbage bins with information and clear signs strategically, many citizens still litter the streets at will. It can therefore be maintained that stakeholders accustomed to throw garbage on the street or drains could stop this practice and start bringing their garbage to collection bins if installed and communicated efficiently (Medina, 2002).

Further, enforcement of the Nairobi anti-dumping laws should be enhanced. The Inspectorate department charged with responsibility of enforcing these laws should be strengthened by increasing manpower, resources and coordination with other departments. Apart from these, in establishing change to sustainable behavior in Nairobi, legislation, fines, monitoring and by law(UNEP , 2003) must be enforced to deal with resisting stakeholders. Leaving the Inspectorate to deal with unsustainable behavior and with the challenges facing them, it is unlikely that the situation will be put under control. In addition to creating awareness to the public, it may add value by involving the local administration and the police so as to establish a strong SWM system commitment and sustainable practices from all stakeholders.

4.5.2.3 Indicators of Good Performance

Table 4.7 showed that 84.3 per cent of the respondents believed that clean city/streets/environment was the best indicator of good performance. Timely and scheduled service delivery as well as empty litter bin and dump sites were also said to be indicators of good performance according to 24.7 per cent of the respondents. Surprisingly, only 14.6 per cent of the respondents thought that fulfilment of terms of service delivery agreement by private contractors. This meant that all that matters is the outcome of the process rather than the process itself.

Table 4.7: Indicators of good performance

			Responses		Per cent of Cases
			N	Per cent	
Indicators of Good Performance	1	Clean city/streets/environment	75	51.4%	84.3%
	2	Timely and scheduled service delivery	22	15.1%	24.7%
	3	Efficiency and good quality in solid waste management i.e. collection, transportation and disposal	14	9.6%	15.7%
	4	Empty litter bin and dump sites	22	15.1%	24.7%
	5	Fulfillment of terms of service delivery agreement by private contractors	13	8.9%	14.6%
Total			146	100.0%	164.0%

4.5.3 Performance Monitoring

Performance monitoring is the systematic collection and analysis of information as a project progresses. It is normally done internally by the project implementation team. It is aimed at improving the efficiency and effectiveness of a project or organization. It is based on targets set and activities planned during the planning phases of work. It helps to keep the work on track, and can let management know when things are going wrong. If done properly, it is an invaluable tool for good management, and it provides a useful base for evaluation. It enables you to determine whether the resources you have available are sufficient and are being well used, whether the capacity you have is sufficient and appropriate, and whether you are doing what you planned to do (Shapiro, J. 1996).

The reason for monitoring is that agents are not to be trusted to stick to what they said they would do. Contractual enforcement cannot be taken for granted (Awortwi, 2004). The study

established that NCC had zoned the city into 7 for purposes of SWM. Each zone is manned by a supervisor, who reports to the Superintendent of SWM. The study further established that the performance monitoring tool is a log book, which lists the work done on weekly basis and the amount of waste disposed in terms of vehicle loads and tonnage based on weighbridge receipts. These are submitted by the PSP on daily basis to the supervisors for confirmation of work done. The monthly performance data is submitted to the superintendent and forms the basis for monthly payment.

4.5.4 Suggestion on How to make PPP in SWM Effective

4.5.4.1 NCC's Perception

The key informants suggested that Private Service providers could be made more effective through supervision, Capacity building, Close consultations and paying them promptly. They said that Short term plans to improve SWM practices in CBD would include Enforcement of the requisite laws, Awareness creation on authorized service providers and Creating public awareness on responsible handling of waste. All in all, the respondents felt that services had improved noticeably since the introduction of PPP, and that Collection of SW has increased by more than 50 per cent.

4.5.4.2 Residents Opinion on Service Provisioning

According to the survey, 60 per cent of the service consumers in the CBD are satisfied with the service provision (Fig 4.12). However, the study established that there was no forum where they can contribute/comment on the service provision

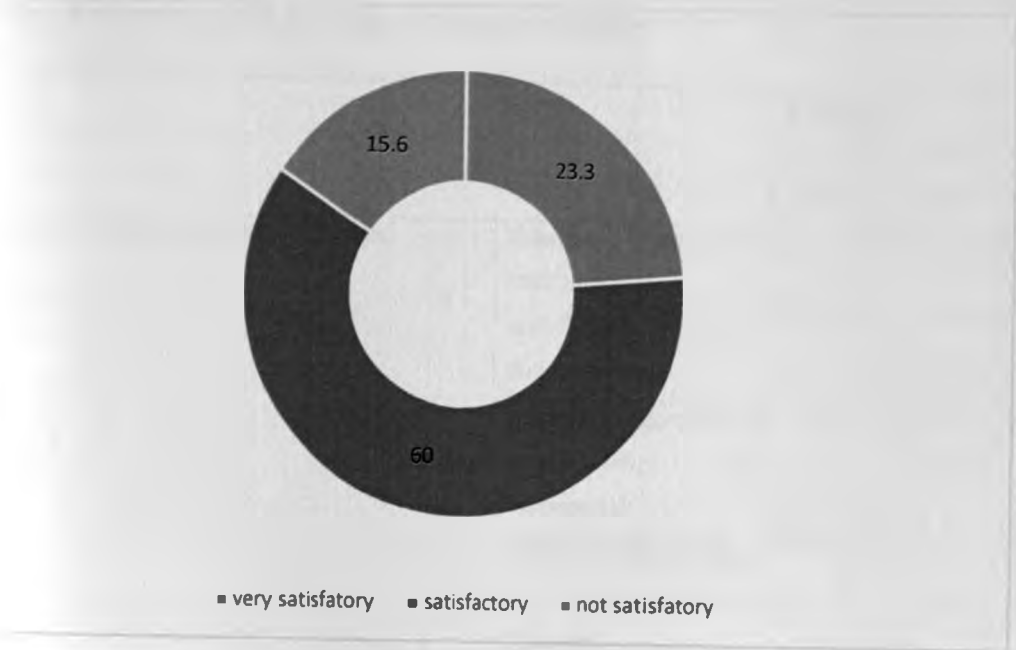


Figure 4.12: Opinion on Service Provision

4.5.4.3 Service Users Perception

According to the study 56.8 per cent of the respondents suggested that the services could be greatly improved if NCC made frequent follow-ups, monitored and evaluated PPP performance to enhance service delivery (Table 4.8)

Table 4.8: How to make private contractors effective

			Responses		Per cent o Cases
			N	Per cent	
Making Private Contractors Effective	1	Exercise open and transparent pre-qualification of tender and contracting	18	10.8%	20.5%
	2	Private contractors autonomous, but accountable	6	3.6%	6.8%
	3	Cancel non-performing and poor performing contracts	6	3.6%	6.8%
	4	Set strict standards and benchmarks for good service delivery	39	23.4%	44.3%
	5	Develop a checklist for quality service delivery as per the terms of reference(TOR)	36	21.6%	40.9%
	6	Frequently make follow-ups, monitor and evaluate service delivery	50	29.9%	56.8%
	7	Give individual responsibility for SWM in zones and hold them accountable	8	4.8%	9.1%
	8	Give individual rotational contracts to avoid monopoly	4	2.4%	4.5%
Total			167	100.0%	189.8%

4.5.5 Comparison of the Period when Solid Waste was collected by NCC and the Current situation where the Private Sector is involved

According to literature reviewed on Lebanon and Dar-es-Salaam, most persons interviewed agreed that PSP participation in SWM greatly improved the service provisioning. However, in Accra, only 25 per cent of the respondents felt that the quality of services had improved. They decried the high cost of service provision and the poor response to attending to complaints.

In Nairobi, the study revealed that 74.4 per cent of the respondents felt that service provisioning had greatly improved with the engagement PPP (Fig 4.13). Only 1.1 per cent of the respondents said that the situation had worsened.

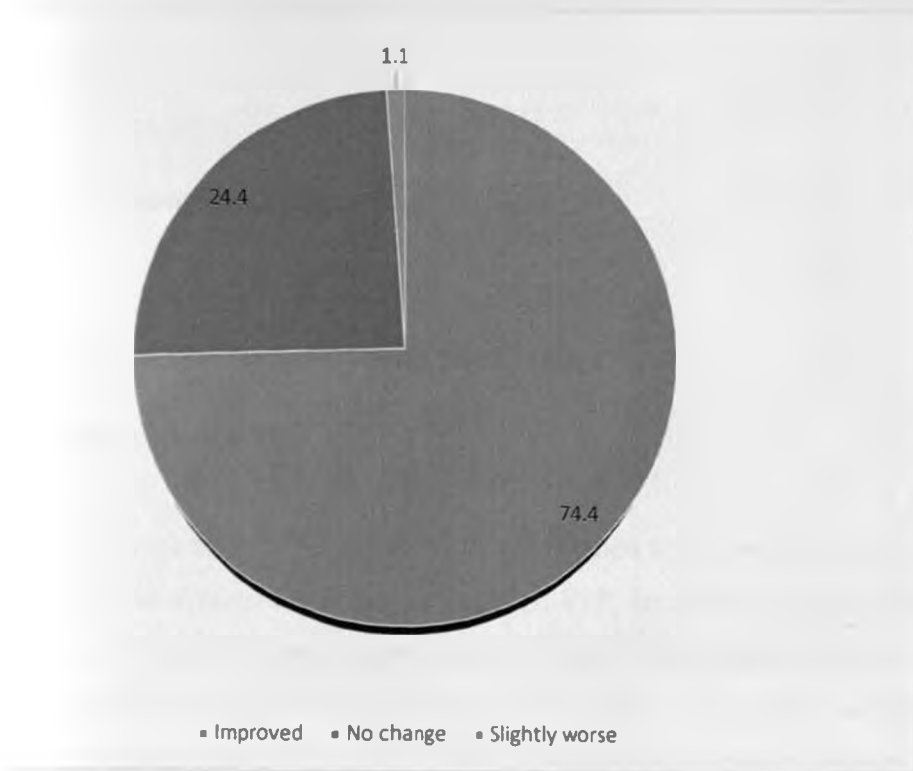


Figure 4.13: Comparison of Pre and Post PPP

When asked why they thought that service provision in the post PPP period had improved, the service users said that there were clearly marked and strategically placed litter bins, regular

collection of garbage, clear designated dump sites and the presence of contracted private firms. Those of the contrary opinion said that illegal dumping persisted (Fig. 4.14).



Figure 4.14: Reasons for Improvement

4.5.6 Rating on PPP for Solid Waste Management

4.5.6.1 Perception on PPP

The Key informants from NCC said that PPP contributed to the improvement in the delivery of solid waste management services in the City. PPP, in their view, had revamped waste management and enabled access to areas that NCC could not access in the past. Furthermore, PPP complimented waste collection services by the county government therefore improving the efficiency and sustainability of the SWM services. In the spirit of pooling together, the respondents felt that the input of all stakeholders brought divergent views together, pooled experience and helped minimize duplication of resources.

The study revealed that the involvement of the private sector in solid waste management in Nairobi added value because it helped reduce problems caused by city council's staff leading to frequent picketing and strikes. The key informants felt that the private sector was able to undertake procedures such as procurement of vehicles, faster. The private service providers were also said to be able to hire the required staff and fire them easily. Implementation of a 24 hour work program was also attributed to implementation of PPP, which the respondents said had flexibility and easier decision making.

The Service Users overwhelmingly felt that PPP was a better management system for SWM (Fig. 4.15). This was surprisingly not attributed to Competition, which according to Literature, was expected to contribute to better performance for PPP.

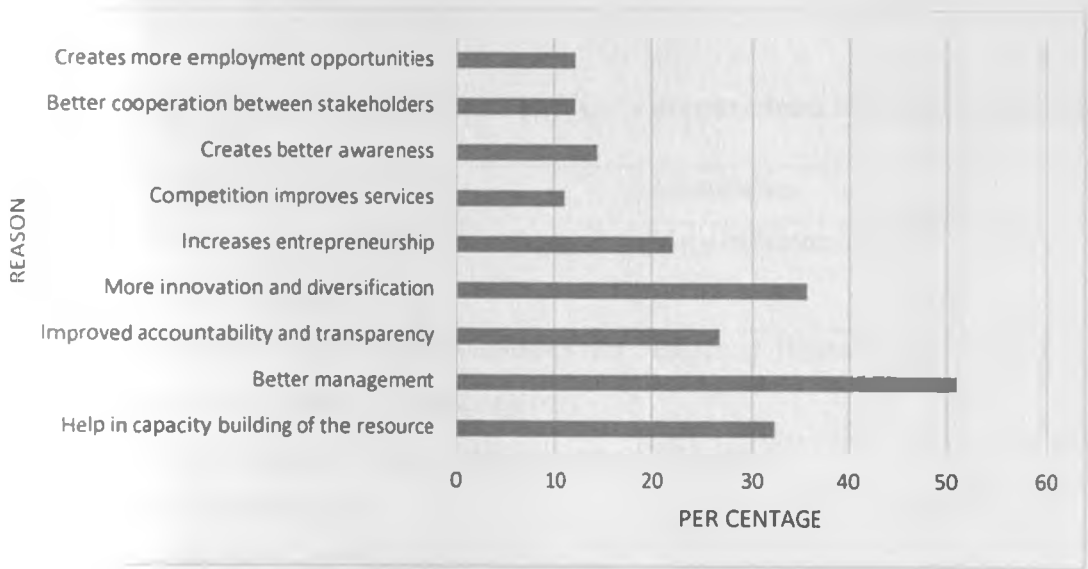


Figure 4.15: Perception on PPP

4.5.6.2 Barriers to the implementation of PPP

Key informants from NCC said that implementation of PPP is hampered by lack of a systematic document filing system. There are poor records on the number of businesses operating within the CBD and therefore the actual revenue expected to be collected for SWM is not clear enough to be used for budget estimates. They said that they had inadequate enforcement capacity due to insufficient human resource training and development. Also noted was minimal facilitation by government towards SWM.

4.5.6.3 Comments on NCC's Preparedness on PPP for SWM

Table 4.9 shows the comments obtained from NCC respondents. In their view, NCC was well prepared for PPP in SWM.

Table 4.9: Reaction of key informants on NCC's preparedness towards partnerships

	Evaluation item	Comments
1	Efficiency of licensing procedures for private companies	Very efficient
2	Appropriateness of methodologies for estimating costs for contracting out	Efficient. Research had been carried out.
3	Supervising and monitoring measures on contracting out	Efficient
4	Legal and Institutional status (By laws, regulations, standards on Solid Waste Management)	Procurement regulations adequate
5	Legal Regulatory measures on illegal and open dumping	Environmental law adequately covers this item
6	Formulation of Database on Solid wastes	JICA studies had found it to be efficient. Database established.

The study also established that the Service Providers (CCL) felt NCC was prepared to the extent that licensing procedures were efficient. They also felt that the methodologies for estimating costs for contracting out used by NCC was appropriate and that they are therefore adequately compensated. They further said that sweeping was rated per kilometer swept while solid waste is rated by tonnage collected. The solid waste management charges are clearly spelt in the Nairobi City County Gazette Supplement No. 7 (Acts No. 2) dated 6th September, 2013. These views however contradict the findings of the study in relation to enforcement of anti-dumping laws.

4.6 NCC'S FUTURE PLANS

The Key informants said that NCC's long term plans for partnerships in SWM in Nairobi include

1. Construction of sanitary land fill
2. Formation of SWM Public Corporation
3. Dividing the whole city into 9 zones for better management
4. Formulation and review of SWM PPP Policy
5. Separation of garbage at source
6. Capacity building
7. A franchise system for NCC is at an advanced stage.

Short term plans to improve SWM practices in CBD

1. Enforcement of the requisite laws
2. Capacity building
3. Awareness creation on authorized service providers
4. Create public awareness on responsible handling of waste

All in all, the Key informants felt that services had improved noticeably since the introduction of PPP. On average, approximately 26000 tons per day waste is collected per day (Key Informants)

4.7 Summary of the Findings-

As earlier stated in the literature review in Chapter two and from the primary source, partnerships in solid waste management have been embraced both in developed and in developing countries with mixed results. The key reasons given for embracing partnerships in SWM is that local authorities are wasteful in their use of capital and labor, and this in turn leads to inefficient performance or even failure to meet the goals. They are generally characterized by operating deficits, causing a drain on public budgets, and overstaffing, in many cases with relatives and others who lack skills and have little concern and real incentives for efficient management. In addition to the lack of financial resources, municipalities suffer from a lack of a qualified and motivated human resource base that can efficiently implement local development projects and use modern municipal planning and management tools. Although the local authorities are mandated to manage wastes in urban areas, other stakeholders have emerged to fill the gaps left by the local authorities. The findings of this study established that NCC suffered from the same challenges and consequently, the private sector emerged to fill the gap in SWM service delivery.

The study also revealed that in the past, there were many players in SWM in Nairobi who operated either illegally or in uncoordinated manner, NCC has attempted control this sector by formulating rules of engagement in order to put sanity into the sector by contracting one firm competitively. Creative Consolidated Limited is the main private waste collector within the CBD. Guided by the Public Procurement and Disposal Act, 2005 (PPOA), the tender was floated in the local dailies in October 2013. Creative Consolidated Limited was the best evaluated company and was therefore awarded the contract to collect .In order to participate in SWM in the City; NCC has set pre-conditions for Private Service providers to obtain licenses and operate within the CBD.

Literature reviewed pointed that Competition is the key condition for successful Private Sector Participation (PSP) as it results ultimately in more efficiency and effectiveness (Awortwi , 2004). The adoption of competitive tendering involves four steps: specification of the service to be provided; request for tenders; evaluation and selection of the contractor; and managing the contract after it has been let. Highly specific contract terms that establish duties; performance monitoring; rules for changing prices and sanctions hold the key to contractual exchange. In Ghana, crucial issues regarding open and competitive bidding, competition among service providers, short-term contracting, strict monitoring and tracking results, and sanctions were not followed rigorously and sometimes not at all. The Ghanaian case showed that LG did not use contract awards to introduce the level of competition required to promote good service delivery. Apart from the fact that only one contract (Teriwhite contracting out service in Tema) was competitively tendered, many of the agents in Accra and Kumasi were given absolute monopolistic powers to operate without any form of competition. This was not because there were no other competitive agents, but because of rent-seeking behavior of some LG bureaucrats and politicians. As a result, out of 780 households that benefit from PPP, only 25 per cent felt that the quality of services delivery had improved.

The Key informants from NCC however said that although the tender was floated in October 2013, there was a delay in awarding the tender because NCC had not completed carrying out due diligence on matters such as: the number of business premises within the CBD, quantity and type of waste generated within the CBD, fees then charged to the residents by other private contractors for garbage collection and also address the general political reasons which resulted in resistance by the private service providers for fear of loss of business. This clearly shows that there was no fair playing ground because this information should have been disclosed in the tender documents to enable the bidders be informed to guide their bids. However, this has not compromised the service delivery as evidenced in the study.

Legal framework for implementing PPP is in place. The three key Acts of Parliament that variously spells out the legal framework for PPP in Kenya are the Privatization Act No. 2 of 2005, the Public Procurement and Disposal Act, No 3 of 2005 and the Public Partnership Act of 25th January, 2013. The study revealed that private service providers are evidently present

in SWM in Nairobi CBD according to 62.2 per cent of the respondents (Table 4.2). NCC exploited the Public Procurement and Disposal Act, No 3 of 2005 to float the tender for provision of Solid waste management. This was advertised in the local dailies. Firms were shortlisted in line with the set criteria which resulted in the award of contract to Creative Consolidated Limited. But as revealed from the study, NCC is yet to complete due diligence on matters such as the number of businesses operating within the CBD, Quantity and type of waste generated within the CBD and how much the residents have been paying to the private contractors for garbage collection. This means that the criteria used to award the tender to the specific contractor is ambiguous and therefore there was no level playing ground. Reports in the local dailies of firms protesting award of tender have featured prominently.

The study also revealed that the quality of services improved dramatically due to involvement of private service providers. The Key informant felt that PPP contributed to the improvement in the delivery of solid waste management services in the county, had revamped waste management, and is accessing areas that NCC could not access. In addition, PPP complimented waste collection services by the county government hence improving efficiency and sustainability of the SWM services. However, the Key informants also felt that the main barriers to successful solid waste collection in the city were: lack of a systematic document filing system, No systematic rule on waste pickers (CBO's, NGO's), inadequate enforcement capacity, insufficient human resource development and training programmes and Minimal facilitation by government. Private Sector involvement ensures that garbage is collected frequently and works continuously for 24 hours.

52 per cent of Service Users overwhelmingly felt that PPP was a better system for SWM as shown on Figure 4.15. 60 per cent of the service consumers in the CBD expressed satisfaction with the service provision as shown on Figure 4.12. The service providers also felt that their involvement added value stating that picketing and strikes by NCC workers would not compromise the SWM in the CBD.

The case is the same for Lebanon as noted in the literature 'Since its inception, the private contractor (Sukleen) has made impressive progress in strengthening its operating efficiency. It has improved both collection and sweeping significantly'. The majority perceived the PPP as successful and recommended similar initiatives in other sectors. In the Ghanaian situation, Out

of 780 households that benefit from PPP, only 25 per cent felt that the quality of services delivery has improved. Literature also revealed that in Dar-es Salaam, solid waste collection activities in the city, improved from 10 per cent in 1994 to 40 per cent of the total waste generated in the city daily in 2001. This improvement was attributed to private sector involvement in solid waste collection in the city

The study also revealed that NCC had the capacity to monitor and evaluate the services of the Private Service Provider because NCC has defined structures in place but had challenges due to corruption and poor organization structure. The service providers felt that supervision and monitoring measures and the legal and institutional status (by laws, regulations, standards on Solid Waste Management) are adequate. This is because there exists regulatory framework such as the City By-laws which are used to monitor illegal dumping and that the presence of NCC Law enforcers discouraged dumping. However, the presence of street vendors and hawkers made enforcement difficult and hence inadequate. Some however felt that there was still illegal littering due to few *askaris (enforcement officers)* to monitor the streets and poor organization NCC felt that more need to be done in terms of capacity building, close consultations and promptly paying the service providers dues. In addition to enforcing of the requisite laws, there is need for public awareness on responsible handling of waste. In Accra's experience monitoring of the private sector was exceptionally weak due to bad logistics, understaffing, low remuneration and corruption. Evidence showed that local service providers continuously flouted contract specifications and/or sanitary byelaws. According to literature, careful supervision, is advisable in order to avoid deterioration of service standards by a monopolistic provider eager to maximize profits

In comparison of the period prior to involvement of the private service providers, 74.4 per cent of the respondents felt that there was an improvement However, 24.4 per cent felt that the situation had remained the same. Only 1.1 per cent said that it had worsened (Figure 4.13). Those that thought that there was an improvement noted that there are clearly marked and strategically placed litter bins, regular collection of garbage, clear designated dump sites and the presence of contracted private firms.

According to literature, Effectiveness is tested by looking at the actual frequency of collection and the cleanliness of the service. In Accra, there was significant difference between

performance under public and private provision. Local contractors generally provide better services, probably because they are paid according to the number of containers they take to disposal sites. Appreciable improvement in SWM was observed since the private sector stepped in, both in terms of spatial coverage and volumes of waste collected. According to the study only 2.2 per cent felt that the state of the cleanliness of the streets was poor (Figure 4.11)

The study further established that there was no stakeholder's forum for commenting on the services provided and even the cost of service provision. This feedback is important especially to Government officials to enable them review their terms of engagement and management of PPP. The Constitution of Kenya 2010, provides that public participation is required for such matters.

CHAPTER FIVE

CONCLUSION

This is the last chapter of this study and it provides a conclusion to the study and proposes some recommendations that should be adopted for better involvement of PPP in Solid Waste management in the city of Nairobi. It also indicates areas of further research.

Introduction

This chapter formulates the conclusions when answering the research questions that were formulated at the beginning of this study. This Research Project aimed at undertaking situation analysis of PPP in Solid Waste management in Nairobi and establishing the outcome of its implementation this far. More specifically, it focused on Public Private Partnership arrangements for provision of Solid Waste Management in Nairobi's Central Business District.

With the current global trends towards decentralization of national governments' responsibilities, then certainly the local/municipal level and in turn municipal authorities take centre stage. There is much agreement that municipal authorities have not performed adequately, yet it is also clear that they remain the everyday face of the public sector; the level where essential services are delivered to individuals and where policy meets people (World Bank, 2000). To take it even further, municipal authorities are the legal owners of waste once it is put out for collection (Schubeler, 1996).

The research questions asked were: Why PPP in Solid waste management was being implemented in Nairobi, how it is being implemented and the outcome of its implementation. Within the cases under study, qualitative methods of data collection and analysis were used. Data was drawn from literature review and interviews with Key informants from the NCC, service providers and service users comprising mainly of Property Managers and caretakers.

5.2 Conclusion

In general, developing nations face several problems to manage the waste in the cities. Due to the increase in the environmental and health issues create by waste, developing nations were looking for an alternative solution to manage the problem. In recent years Public Sector has engaged Private Service providers in the form of PPP as a strategy for SWM. This study is based on PPP in solid waste management in Nairobi. It sought to establish why PPP in SWM is being implemented, how it is being implemented and the outcome of its implementation.

5.2.1 Reasons for implementing PPP in Solid Waste Management

Information obtained from literature review in Chapter 2 established that local authorities are faced with a myriad of issues that affect delivery of service such as Insufficient budget, Untrained personnel, bloated workforce, Poor enforcement of legal framework, Complicated lengthy procurement process, Improper zoning for solid waste management, Gaps in legal framework, lack of equipment. The study concluded that the NCC is also faced with similar challenges. According to the survey, the biggest SWM challenges ranged from financial constraints and poor budget allocation to non-Collection of solid waste and negligence, and illegal dumping and littering among others (Figure 4.1). These challenges compromised service delivery. When formal waste management systems do not deliver services at an adequate level, informal practices, actors and relations tend to come into play.

From the study, it can be concluded that the reason PPP is being implemented in Nairobi is because of NCC's inability to provide adequate solid waste management services. It can also be concluded that Private sector participation emerged to fill the gaps in solid waste management services caused by NCC's inability to provide adequate services. Involvement of the private sector in SWM is useful according to 97.8 per cent of the service users (Table 4.4) with 65.6 per cent stating that PPP are easier to finance and manage, were more accountable, carry out better sensitization (Figure 4.6).

It can also be concluded that review of Statutes gave rise to PPP. Under the Local Government Act CAP 265 of the Laws of Kenya (now repealed), the responsibility of waste management

s placed on respective local authorities. EMCA, 1999, provided for licensing of persons transporting waste. Many players were licensed to operate in Nairobi, which included the CBD, industrial and residential areas. The Public Procurement and Disposal Act, 2005, The Privatization Act and the Public Private Partnership Act, enabled NCC to enter into partnerships in provision of services.

2 How is PPP being implemented?

With repealing of the Local Government Act which mandated LA's to manage solid waste and enactment of the new laws listed above, the NCC floated a tender for procurement of a service provider to operate within the CBD in order to put sanity within the CBD which had more than 20 service providers.

Firstly, NCC reviewed their licensing pre-conditions. The mandatory requirements for management of the firms included: ownership of Trucks less than 5 years old, ability to manage and maintain staff of 300, ability to pay employees before invoice has been processed, mandatory requirements (Licenses, NEMA compliance, Tax compliance, Company registration, Employment of employees on permanent basis and Bid security) and having at least ten years of service. Secondly, an open tender was floated in accordance with the Public Procurement and Disposal Act (2005). The study revealed that eventually, NCC contracted a firm, Creative Consolidated Limited, to operate within the CBD.

NCC manages the performance of the Private Service providers through their superintendent's office and has developed performance management tools. The city is zoned for SWM for ease of monitoring and reporting structure. Performance management is fundamental for the success of PPP as established in the literature reviewed in Chapter two. Although NCC was said to have well defined structures that may be used for supervising PSP, the service users said that this was hampered by corruption. Corruption is a common problem with public sector contracts and PPP are susceptible as others. Performance monitoring is important especially because it is impossible to specify everything in the Contract, especially because PPP in SWM is a new phenomenon and data has to be collected for purposes of improving future partnership management.

5.2.3 The Outcome of Implementing PPP in SWM in Nairobi

The study reveals that PPP has helped to manage solid waste in Nairobi. According to most of the interviewees (84.3 per cent of the service users Table 4.7), the best indicators of good performance are evidenced by clean city streets and environment. Other indicators include efficiency in solid waste management characterized by frequent collection, transportation and disposal. Those that thought that there was an improvement noted that there are clearly marked and strategically placed litter bins, regular collection of garbage, clear designated dump sites and the presence of contracted private firms. Those of the contrary opinion said that illegal dumping still existed due to lack of enforcement of anti-dumping by-laws .

It can therefore be concluded that the implementation of PPP in solid waste management has led to improvement of the quality of service delivery. Solid waste is collected frequently on a 24 hour basis including in areas that NCC could not access. The study established that 60 per cent of the service users in the CBD are satisfied with the service provision (Figure 4.12). Comparing the period when NCC was the sole service provider and the period when the service has been provided under PPP, 74.4 per cent of the service users (Figure 4.13) acknowledged that there was noticeable improvement and that there are clearly marked and strategically placed litter bins, regular collection of garbage, clear designated dump sites within the CBD and the presence of contracted private firms.

The findings revealed that PPP do not guarantee effectiveness. There is evidence of illegal dumping attributed to lack of tailor made regulation on SWM leading to weak monitoring and enforcement. The private service providers felt that the NCC lacked capacity to enforce illegal dumping laws and control street urchins, hence aggravating SWM problems. 43.3 per cent felt that illegal dumping, littering and poor management were the biggest problems. 64.4 per cent of service users rated NCC's service provisioning as poor citing mismanagement with only 3.3 per cent satisfied with their performance. It may therefore also be concluded that there is need to have specific regulation to govern Solid Waste management and enforcement. Capacity enhancement is also required to enable NCC monitor and evaluate performance of PPP effectively.

According to literature, Competition is required to promote good service delivery. In Nairobi, private service provider was sourced through an open tender process although it is believed that the contract award was politically driven. The survey on the number and types of businesses operating within the CBD should have been concluded prior to advertising the tender for provision of SWM. This would have provided specific contract terms and therefore made the tender competitive. It is no wonder that CCL's contract is deemed to have been politically driven and as such the NCC officials may not be able to effectively evaluate their service provisioning due to fear of stepping on other people's toes.

Study Recommendations

1.1 Situation analysis of PPP in SWM

While the public sector has challenges in SWM and tries to get a solution through PPP, they have substantially ignored the public who are the main generators of solid waste and consumers of the SWM services. Public awareness about SW is a major factor in handling the SW with PPP. The public sector or private sector can also carry out awareness programs on solid waste minimization, recycling, reusing and disposal. Lesson on SWM may also be introduced in subjects related to environment in schools. Awareness advertisements may be made by the public and private sectors in both print and electronic media in basic language and pictorial for ease of understanding. Consequences of illegal dumping should be clearly communicated and expected. Making people aware, enacting separate laws or practicable laws and putting them into practice would help to reduce the amount of waste and protect the environment and the people.

Discouraging PPP, removing obstacles to them, clearly implies discouraging the alternative, of involving the public sector. The public are the backbone of the operations of the PPP given the central role it plays in generating and paying for the garbage collection service. Public awareness should be created especially at the generators level so as to minimize waste generation and for the generators to embrace the importance of proper waste management

5.3.2 Process and Outcome of Implementing PPP in SWM

The greatest opportunity to involve the private sector lies in having firms provide SWM services under a contract with the local government since it results in improved service provision. It would be desirable for analysts, policy-makers, and practitioners to evaluate the service obligations to be met by private service providers, establish detailed criteria for monitoring the services of PPP and develop clear performance indicators. SWM monitoring system should be put in place to ensure adherence to SWM regulations/laws. Currently, NCC monitors performance in the seven SWM zones through zone supervisors. There is a performance monitoring form that is signed by both representatives of NCC and PSP. The form is not serialized and may therefore be open to abuse. The monitoring criteria is not clear due to the fact that NCC is yet to complete their due diligence on the number and types of businesses operating within the CBD.

Monitoring is an invaluable tool for good management and would provide a useful base for evaluation. If done properly, NCC will be able to keep the PSP work on track and enable management know when things are going wrong. It will also enable NCC determine whether the resources provided by the PSP are sufficient, are being well used and whether their capacity is sufficient and appropriate. The information would enable NCC to provide water tight criteria for future tendering process and contract management. It will also be used as a basis of strengthening future PPP arrangements.

Capacity is a serious constraint for LA's to conduct successful partnerships with the private sector. LA's need to develop their capacity to plan, negotiate, implement and monitor successful PPP Projects. While argument can be made that PPP are too complex for governments lacking adequate capacity, starting with small projects and developing such capacity gradually will help overcome this problem. Capacity development is required for both public and private sectors. To improve the service, SWM needs to be professionalized, and solid waste department should be managed by trained staff. It is important to employ people with the required expertise. Enough training is needed not only for the senior staff but also for all workers both in the public and private sector.

legal framework, allowing the widening of ownership, preventing its concentration, and encouraging competition, must be devised. In this context, competitive tendering and complete transparency particularly with regards to financial accountability are essential elements. All relevant financial and technical information and data needs to be clearly and transparently defined in the bidding documents. Contract specifications need to be comprehensive and effective to avoid Asymmetric Information. There is need for stringent information management, contract discipline and enforcement mechanisms that penalize breach of contract (Mwambi, 1996; Larbi, 1998 as quoted by Awortwi, 2004). These laws need to be implemented, communicated and enforced.

Recommendations for Further Research

Generally, the geographical scope of this kind of studies needs to be broadened. This research studied PPP in Solid Waste management in the Nairobi CBD through qualitative methods. In this study, the partnership arrangement is limited to that between the NCC and formal Private Service Providers who are licensed or contracted to practice within the CBD. The study is also limited to waste collection and street cleaning function of SWM. As a result, the analysis conducted in this research is limited in its scope and ambition. Future research on PPP in solid waste management practices between NCC and other players such as the Civil Society, Community based Organizations (CBO's) and Non-Governmental Organizations (NGO's) should be undertaken within the City of Nairobi as whole including residential and Industrial

5. Long term solutions of waste management problems in cities like Nairobi, strategies need to look beyond collection of waste. Waste management is much more than simple collection and dumping or destruction of waste. It includes waste minimization, waste separation, transport, disposal, destruction, and recycling. It also includes the actors, people and organizations involved in these processes. Yet to many urban managers and politicians, waste management still only implies collection and disposal or dumping of waste. For example, the continued production of cheap and readily available Low Density Polythene (LDP) material (sometimes given out free of charge by shop keepers) and the rural - urban influx of processed food along with non-consumable materials such as banana stems, maize stalks,

Non-edible vegetable stems call for new strategies by municipal authorities to minimize the production of waste. Future studies should examine the different policies required to promote PPP in waste reduction, recycling and reuse within or outside households for sustainable development.

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APPENDIX 1: Interview Schedule for City Council/ Government Officials

The purpose of this interview is purely academic, for a master's research project on Solid Waste Management, at the University of Nairobi. The results of this interview are not for publication

1. Please explain about yourself and your organizational activities.

Name/ Title	
Department	
Activities Undertaken	

SECTION ONE: Situation Analysis to establish Why PPP is being implemented.

2. What are the main solid waste management problems in the city?

1.	
2.	
3.	
4.	
5.	

3. What do you think are the causes of these problems?

1.	
2.	
3.	
4.	
5.	

4. What are your areas of operation in terms of waste collection in the CBD?

1.	
2.	
3.	
4.	
5.	

5. How often is waste collected?

Daily	
Once a week	
Twice a week	
Other	

6. On average, how much waste is collected per day?

.....

..

7. How many staff members are involved in SWM?

Permanent	Contracted	Temporary

8. What are their qualifications?

Primary	
Secondary	
University	
Other(Specify	

9. Do you have staff that is trained and charged with the responsibility to monitor and supervise the other service providers?

.....

.....

10. Which equipment / tools do you have for managing solid waste?

No.	TYPE	Number
1.	Trucks	
2.	Wheel loaders	
3.	Trolleys / Wheel Burrows	
4	Others (Specify)	

11. What Per centage is serviceable (running fleet)

.....

..

What Laws and By-Laws relate to Solid Waste Management?

1.	
2.	
3.	
4.	
5.	

13. How are they enforced?

1.	
2.	
3.	

What are your challenges in enforcing these Laws/by-laws?

1.	
2.	
3.	

What do these laws/By- Laws say about the following:-

1.	Waste collection and transportation	
2.	Type of vehicles	
3.	Type of containers	

4.	Waste producer responsibility	
5.	Engagement of Private service providers	

16. What is the source of revenue for SWM?

National Government	
City County Budget	
User fees	
Others(specify)	

17. Is the revenue sufficient for SWM?

Yes	Reason?
No	Reason?

18. What is your opinion about Public Private Partnership (PPP) in solid waste management?

.....

19. Are there any other institutions or agencies which provide solid waste management services in the CBD?

- i) Yes
- ii) No

20. If Yes, Which institutions/agencies and what type?

NO.	Name of institution or agency	Type of institution or agency(Contracted, Licensed, Other)
1.		
2.		
3.		
4.		
5.		

Attach separate list if more than the space provided

Where do they operate?

NO.	Name of institution or agency	Area of Operation
1.		
2.		
3.		
4.		
5.		

2. Why is the private sector being involved in solid waste management in Nairobi?

1.	
2.	
3.	

23. What are the main drivers behind the attraction towards privatization of solid waste services in the city?

1.	
2.	
3.	

24. What is your assessment of NCC's preparedness towards partnerships with private sector?

No.	Evaluation Items	Comments
1.	Efficiency of Licensing procedures for private companies	
2.	Estimating costs for contracting out	
3.	Supervising and monitoring measures on contracting out	
4.	Legal and Institutional status (By laws, regulations, standards on Solid Waste Management)	
5.	Legal Regulatory measures on illegal and open dumping	
6.	Formulation of Database on Solid wastes	

SECTION TWO: How is PPP being implemented in Nairobi?

25. What are the main steps to be taken in order to create public private partnership model?

1.	
2.	
3.	

4.	
5.	

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ADD LIBRARY

26. What are the mandatory requirements for engaging other institutions?

1.	
2.	
3.	
4.	
5.	

27. What are the process/ procedure of licensing or contracting Private companies to undertake SWM activities in the city?

1.	
2.	
3.	
4.	
5.	

28. What are their terms of engagement?

Terms	Duration
Contract	
License	
Temporary Permits	
Other (Specify)	

29. What are their roles?

1.	
2.	
3.	

30. What Laws/ Regulations guide your engagement process?

1.	
2.	
3.	
4.	
5.	

31. What is your opinion about these laws?

Adequate	
Inadequate	
Other(Specify)	

32. What challenges do you meet in managing these institutions/Agencies?

1.	
2.	
3.	
4.	
5.	

33. How are their activities monitored?

1.	
----	--

2.	
3.	
4.	
5.	

34. Do you think that NCC has the capacity to monitor the activities of private contractors?

- i) Yes
- ii) No
- iii) Other (Specify)

35. Give Reasons

.....

.....

.....

36. What kind of support does your organization give to other SWM service providers?

1.	
2.	
3.	

37. Does your organization have a budget specifically for SWM?

.....

.....

.....

38. How does this budget compare to the whole budget of your organization?

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

SECTION THREE: Outcome of implementing PPP in Nairobi?

39. Do you think the public private partnership model is a suitable model for your city and have the people accepted it?

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

40. What is your opinion about the efficiency of Public Private Partnership in solid waste management?

.....
...

41. What in your opinion are the benefits and constraints of Public Private Partnership?

Benefits	Constraints

42. What should be done in order to make sure that private contractors do their job properly?

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

43. How do you evaluate the performance of private sector in delivering solid waste services?

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

44. What is your opinion about corruption issues when NCC is making contract or licensing private service providers and how can corruption be avoided?

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

45. What is your opinion about the laws/ by-laws applicable for solid waste management?

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

46. What is your opinion about NCC's ability to deal with illegal dumping?

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

47. What are the future plans/strategies that your organization has with regard to improving SWM partnership practices in the CBD?

1.	
----	--

2.	
3.	

48. From your experience, what in your opinion should be urgently done to improve SWM practices in the CBD?

1.	
2.	
3.	

49. How do you compare the time when NCC was the sole provider of SWM and the time when they embraced PPP?

.....

Thank you

APPENDIX 2: Questionnaire 2: Targeted to Private Service Providers

The purpose of this interview is purely for academic purpose for a master’s research project on Public Private Partnership in Solid Waste Management, at the University of Nairobi. The results of this interview are not for publication.

- 1. Please explain a little about yourself and your firm’s activities regarding Solid Waste Management in the City and your relationship with the NCC (Contracted or Licensed).**

Your Name/ Designation	
Name of firm	
Years in Service	

What was your motivation in starting this company?

.....

...

SECTION ONE: Situation Analysis to establish Why PPP is being implemented

- 2. What are the main solid waste management problems in the city?**

1.	
2.	
3.	
4.	

5.	
----	--

3. What do you think are the causes of these problems?

1.	
2.	
3.	
4.	
5.	

4. Do you think involvement of private sector in solid waste services is useful? (Give reasons to support your answer)

	Reasons
Yes	
No	

5. Why in your view is the private sector being involved in solid waste management in Nairobi?

1.	
2.	
3.	

6. Service Provisioning

a) Which Service do you provide in relation to SWM?

1.	
2.	
3.	

b) Where do you provide the service?

1.	
2.	
3.	

c) How many premises do you provide the service to?

1.	
2.	
3.	

d) How do you collect waste (Method of collection)?

1.	
2.	
3.	

e) How often do you collect waste?

Daily	
Once a week	
Twice a week	
Other	

f) On average, how much waste is collected per day?

.....

g) What type of tools and equipment do you use to provide SWM services?

Types	No

h) What Per centage is serviceable (running fleet)

.....

i) Where do you take the waste collected to?

.....

j) Who pays you for collecting the waste?

.....

k) How much do you charge per month for waste collection?

- i) Ksh. 0 – 1,000
- ii) Ksh. 1,000 – 2,000
- iii) Ksh. 2,000 – 3,000
- iv) Ksh. 3,000 – 5,000
- v) Ksh. 5,000 – 10,000
- vi) More than Ksh. 10,000

l) Is the payment adequate?

	Reasons
Yes	
No	
Other	

7. Structure of the Organization

a) What is your organization structure?

.....

How many staff members are involved in SWM?

Permanent	Temporary

b) What are their qualifications?

Primary	
Secondary	
University	
Other(Specify	

c) Do you have staff that is trained and charged with the responsibility to monitor and supervise them?

.....
 ...

8. Engagement with NCC/ Government

a) What kind of support do you get from NCC / Government for the services you provide?

Financial	
-----------	--

Technological	
Human	
Others(specify)	

b) What licenses do you need to operate and how easy are they to get?(
Licenses, cost, time taken to get, comments)

Licenses	Cost	Time taken to obtain	Comments.
1.			
2.			
3.			
4.			

c) What policies, Laws or By-laws affect your business?

Policies
1.
2.
3.
4.

d) How do they affect your operations?

1.	
----	--

2.	
3.	

e) Are you aware about what they say about the following:-

1.	Waste collection and transportation	
2.	Type of vehicles	
3.	Type of containers	
4.	Waste collector responsibility	
5.	Public Private Partnerships?	

9. What is your assessment of NCC's preparedness towards partnerships with private sector?

No.	Evaluation Items	Comments
1.	Efficiency of Licensing procedures for private companies	
2.	Appropriateness of Methodologies for estimating costs for contracting out	
3.	Supervising and monitoring measures on contracting out	
4.	Legal and Institutional status (By laws, regulations, standards on Solid Waste Management)	

5.	Legal Regulatory measures on illegal and open dumping	
6.	Formulation of Database on Solid wastes	

10. Do you have competitors in the CBD?

Yes	No

If yes, who are they and where do they operate?

NO.	Name of competitor	Area of Operation
1.		
2.		
3.		
4.		
5.		

Attach separate list if more than the space provided

SECTION TWO: How is PPP being implemented in Nairobi?

10. Type of Engagement

1.	Contract	
2.	Licensed	
3.	Other(Specify)	

11. What procedure was followed to enter into this engagement?

1.	
2.	
3.	
4.	
5.	

12. Was the process competitive?

	Give Reasons
Yes	
No	

13. What were the mandatory requirements for engagement?

1.	
2.	
3.	
4.	
5.	

14. What Laws/ Regulations do you have to abide with?

1.	
2.	
3.	
4.	
5.	

15. What is your opinion about these laws/ Regulations?

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

16. How does NCC enforce these laws/ Regulations?

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

17. What challenges do you meet while engaging with the Public Sector?

1.	
2.	
3.	
4.	
5.	

18. To whom are you accountable to for the services you provide (specific office)?

.....
...

19. Do you have a performance contract?

- i) Yes**
- ii) No**
- iii) Other(Specify)**

20. If Yes, what is your performance assessed against? (What criteria are you measured against)?

.....
.....

...

21. What is your opinion about the set performance criteria in terms of being:-

Specific	
Measurability	
Achievability	
Realistic	
Time bound	

21. What is your opinion about the Supervision done by the NCC in terms of:-

Frequency	
Objectivity	
Terms of performance contract	
Staff	

SECTION THREE: Outcome of implementing PPP in Nairobi?.

22. Do you think the public private partnership model is a suitable model for Nairobi and have the people accepted it?

- i) Yes
- ii) No

23. Do you think involvement of private sector in solid waste services has been useful?

- i) Yes
- ii) No.
- iii) Other(Specify)

24. Give reasons to support your answer

25. How do you compare the period when Solid Waste was collected only by the NCC and the current situation where the private sector is involved?

Improved	
----------	--

Slightly Improved	
No Change	
Slightly Worse	
Worse	
Other(Specify)	

26. Please give the reasons for your answer in 25 above.

27. From your experience, what in your opinion should be urgently done to improve SWM practices in the CBD?

1.	
2.	
3.	
4.	
5.	

27. What is your opinion about NCC'S enforcement of laws/ policies on illegal dumping?

- i) Adequate
- ii) Not Adequate
- iii) Other(Specify)

Give Reasons

28. What are the future plans/strategies that your organization has with regard to improving SWM partnership practices in the CBD?

1.	
2.	
3.	
4.	
5.	

29. What is your opinion about corruption in NCC when awarding contracts/ licenses or providing supervision?

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

Thank you for your cooperation

APPENDIX 3: Questionnaire 3: Targeted to Property Managers / Caretakers/ Residents

The purpose of this interview is purely academic, for a master's research project on Solid Waste Management, at the University of Nairobi. The results of this interview are not for publication.

1) Name (Optional):

2) Gender:

- i) Female
- ii) Male

3) Location(Name of Street and Building)

4) Type of Activities

5) How many years have you been a resident?

- i) Less than 5 years
- ii) 0 - 5 years
- iii) 5 – 10 years
- iv) More than 10 years

6) Who collects your Solid Waste?

City Authority	
Private Firm (Name of Firm)	
Other (Specify)	

7) How many times a week is your solid waste collected?

- i) Daily
- ii) Once
- iii) Other (Specify)

8) Do you pay for waste collection?

- i) Yes
- ii) No

9) If yes, how much per month do you pay for waste collection?

- vii) Ksh. 0 – 1,000
- viii) Ksh. 1,000 – 2,000
- ix) Ksh. 2,000 – 3,000
- x) Ksh. 3,000 – 5,000
- xi) Ksh. 5,000 – 10,000
- xii) More than Ksh. 10,000

10) How did you arrive at the amount to be paid?

11) What is your opinion about the services provided?

- i) Very Satisfactory
- ii) Satisfactory
- iii) Not Satisfactory
- iv) Other (Specify)

12) Do you have a forum to comment on the services provided and the cost of the service?

- i) Yes

- ii) No
- iii) Other (Specify)

13) If yes, how?

14) What in your opinion are the main solid waste management problems in Nairobi city?

i)

ii)

iii)

iv)

v)

15) Based on your own observation over time, how would you rate the performance of the City authority in SWM on the basis of the scale provided below:

- i) Very Poor
- ii) Poor
- iii) Fairly Good
- iv) Good
- v) Very Good

16) Give the reasons for your answer.

17) Do you think public private partnership is a better alternative for management of solid waste in your city?

- i) Yes
- ii) No

18) Give reasons to support your answer

- i) _____
- ii) _____
- iii) _____

19) Do you think the public private partnership model is a suitable model for Nairobi City and do the people accept it?

- i) Yes
- ii) No

20) Give your reasons for your answer

- i) _____
- ii) _____
- iii) _____

21) Do you think that the Nairobi City County has capacity and is capable enough to supervise and monitor the activities of private contractors?

- i) Yes
- ii) No
- iii) Other

22) Give your reasons for your answer

- i) _____

- ii) _____

- iii) _____

23) What do you think should be done in order to make sure that private contractors do their job properly?

- i) _____

- ii) _____

24) What in your opinion would be the indicators of good performance?

- i) _____

- ii) _____

- iii) _____

25) What is your opinion on the cleanliness of the streets?

26) How can it be improved?

27) How do you compare the period when Solid Waste was collected only by the NCC and the current situation where the private sector is involved?

Improved	
Slightly Improved	
No Change	
Slightly Worse	
Worse	
Other(Specify)	

28) Please give the reasons for your answer in 27 above.

29) What is your opinion about NCC'S enforcement of by-laws/ policies on illegal dumping?

iv) Adequate

30) Not Adequate Give Reasons

Thank you for your cooperation.