



**UNIVERSITY OF
KWAZULU-NATAL**

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YAKWAZULU-NATALI**

**Research submitted in fulfilment of the requirements of the Master's degree in Public
Administration**

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**Assessing the impact of privatising the solid waste collection in the KwaDukuza Municipality,
KwaZulu-Natal Province.**

School of Management, IT and Governance

The Discipline of Public Governance

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2020

Declaration

I, Billy Sihle Mokoena, declare that:

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Date: 03 April 2020

ACKNOWLEDGEMENTS

The special thanks goes to the man who not only supervised me, but also baby sat me, step by step along this journey. If it was not for you, Mr J.C. Nyawo I would not have achieved this milestone. Your valuable support, guidance and assistance made this work possible. Also, I would like to praise The University of KwaZulu-Natal for providing me with the opportunity. UKZN feels like a little home.

To Mr Micheal Abednigo Zondi, this one is not mine, but for us. It is a victory that needed silent soldier like you.

For my young big family consisting of Tumelo, Kagiso, Lebogang, Fundani and Ningi, I compromised your time, but I guess you will forgive me for that. I am starting to reap the rewards of the hard work put together by my grandmother(maNtuli), who never settled for less. It is hurting that I lost you (Ella Zo. Makhaye), on the other side I am glad to be your son and I will cherish you life as long as I live.

Finally to all my invisible background players such as Charlette Govender and Thanda Nzuza, thank you.

Ladies and gentlemen, if one alphabet “I” can do, then with three alphabets it should be easy, “You” can as well.

ACRONYMS AND ABBREVIATIONS

| | |
|----------|--|
| IDP | Intergrated Delopment Plan |
| SAP | Structural Adjustment Progamme |
| PPP | Public Private Partnership |
| NPM | New Public Management |
| PSP | Private Sector Participation |
| FDI | Foreign Direct Investment |
| UNDP | United Nations Development - Programme |
| IDP | Intergrated Delopment Plan |
| SAP | Structural Adjustment Progamme |
| OECD | Organisation For Economic Co-Operation and Development |
| POSDCORD | Planning, Organising, Staffing, Directing, Coordinating, Reporting, Budgeting |
| TQM | Total Quality Management |
| SWM | Solid Waste Management |

Abstract

According to Schedule 5b, of the Constitution of the Republic of South Africa 1996, waste management is an essential service to be provided by local government. Failure to deliver proper services could lead to an unhealthy and polluted environment. This study examines the effects of privatising solid waste collection in local government, focusing on the KwaDukuza municipality. The municipal waste departments are currently facing inadequate operational budgets, increases in operating costs, the rising cost of replacement capital expenses and skyrocketing exposure to environmental liability. These challenges make privatisation appear attractive. In short, the privatisation of solid waste collection is being used as an intervention for the challenges of solid waste collection management faced by local governments. The outsourcing of solid waste collection is driven by the theory privatisation is more effective and efficient at delivering services.

This study employed a quantitative approach. The primary data was obtained from ward committee members and waste company employees through questionnaires. Primary data was received from 80 participants (70 ward committee members and ten from waste collection company employees). Probability random sampling was used in this study. The results of the study indicate private collection is more efficient, even though the municipality has resources to deliver; but mismanagement of these resources, as well as low morale in staff make it difficult for the municipality to perform. This study recommends, while the municipality has the muscle to handle the collection of solid waste, private collection is more efficient. The municipality needs to allow the private collection of waste and local government should act as the watchdog and protect the citizens who carry out waste collection, who are almost exclusively from a disadvantaged group, from being exploited.

Keywords: privatization, waste collection, municipalities, service delivery

Table of Contents

| | |
|---|-------------------------------------|
| Declaration..... | ii |
| Acknowledgements..... | iii |
| List of Acronyms..... | iv |
| Abstract..... | v |
| Table of contents..... | vi |
| List of figures..... | x |
| List of tables..... | xi |
| List of appendices..... | xii |
| CHAPTER ONE | 1 |
| Introduction..... | 1 |
| 1.2 Background to the study | 2 |
| 1.3 Definition of terms | 4 |
| 1.4 Research problem..... | 5 |
| 1.5 Aim | 6 |
| 1.6 Research objectives..... | 7 |
| 1.7 Research questions..... | 7 |
| 1.8 Preliminary literature review..... | 8 |
| 1.8.1 Local government and service delivery | 9 |
| 1.8.2 Waste management | 11 |
| 1.8.3 Privatisation | 13 |
| 1.9 Theoretical Framework | 17 |
| 1.10 Importance of the study..... | 19 |
| 1.11 Justification of the study | 20 |
| 1.12 Research methodology | 21 |
| 1.12.1 Research design..... | 21 |
| 1.12.2 Research approaches | 21 |
| 1.12.3 Study site..... | 23 |
| 1.12.4 Population and sampling | 24 |
| 1.12.5 Target population | 24 |
| 1.12.6 Sampling strategy and size..... | 24 |
| 1.12.7 Data collection methods..... | 25 |
| 1.14 Measurements | 27 |
| 1.15 Data analysis | 28 |
| 1.16 Ethical consideration..... | 29 |
| 1.17 Limitation..... | 30 |
| CHAPTER TWO | 31 |
| LITERATURE REVIEW | Error! Bookmark not defined. |

| | |
|---|----|
| 2.1 Introduction | 31 |
| 2.2 Understanding Solid Waste Management | 31 |
| 2.3 The classification of waste | 32 |
| Table: 2.1: Classification of waste | 32 |
| Table 2.2: Sources and types of municipal solid waste..... | 33 |
| Table 2.4 Classification of waste based on physical state of waste substances | 36 |
| 2.4 Solid waste management in a global context | 38 |
| 2.5 Contextualising solid waste management in sub-Saharan African cities | 41 |
| 2.6 Refuse Waste Management in South Africa | 45 |
| 2.7 Waste Management Policy and Legal Framework in South Africa... | 48 |
| 2.7.1 The South African Constitution (108 of 1996) | 48 |
| 2.7.2 National Environmental Management Act (NEMA) (107 of 1998) | 48 |
| 2.7.3 White Paper for Integrated Pollution and Waste Management for South Africa (Notice 227 of 2000) | 49 |
| 2.7.4 The National Environmental Management Waste Act (59 of 2008) | 49 |
| 2.7.5 National Domestic Waste Collection Standards, GNR 21 (2011) .. | 51 |
| 2.7.6 The National Waste Management Strategy (2011) | 51 |
| 2.8 The goals of waste management | 52 |
| 2.9 The principles of waste management | 53 |
| 2.10 Concept, Origin and the meaning of Privatisation | 54 |
| 2.11 Involvement of government and community on solid waste management | 56 |
| 2.13 Private Sector Delivery of Quality Solid Waste Service..... | 63 |
| 2.14 Advantages of Privatization | 66 |
| 2.15 Limitations of Privatization..... | 68 |
| 2.16 Forms of Privatization in Municipal Solid Waste Management | 69 |
| 2.16.1 Contracting Out..... | 69 |
| 2.16.2 Open Competition | 70 |
| 2.16.4 Concession/Leasing..... | 71 |
| 2.17 Conclusion | 72 |
| CHAPTER THREE..... | 74 |
| THEORETICAL FRAMEWORK | 74 |
| 3.1. Introduction..... | 74 |
| 3.2. The meaning of public management | 74 |
| 3.2.1 Meaning of public management reform | 77 |
| 3.3. Objectives of public management | 78 |
| 3.4. Reasons for public management reforms | 79 |
| 3.5. Public management: theoretical perspectives | 82 |

| | |
|--|-----|
| 3.5.1 Beginning of and the problems with the traditional theories of public administration | 83 |
| 3.5.2 Problems with the traditional theories of public administration | 85 |
| 3.6. Emergence of new public management | 89 |
| 3.7 Principles of new public management | 94 |
| 3.8 Criticisms of new public management | 105 |
| 3.9 Application of new public management approach to the study | 108 |
| 3.10 Conclusion | 108 |
| CHAPTER FOUR..... | 110 |
| RESEARCH METHODOLOGY..... | 110 |
| 4.1 Introduction..... | 110 |
| 4.2 Research design..... | 110 |
| 4.3 Research approach | 111 |
| 4.4 Study site..... | 112 |
| 4.5 Target population | 113 |
| 4.6 Sampling strategies and size | 113 |
| 4.7 Data collection methods..... | 114 |
| 4.8 Data analysis | 115 |
| 4.9 Ethical considerations | 115 |
| 4.10 Conclusion | 116 |
| CHAPTER FIVE..... | 117 |
| DATA PRESENTATION, ANALYSIS AND DISCUSSION | 117 |
| 5.1 Introduction..... | 117 |
| 5.2 Research objectives..... | 117 |
| 5.3 Research process followed..... | 118 |
| 5.4 Reliability statistics | 118 |
| 5.5 Biographical data | 119 |
| 5.6 Inferential Statistics..... | 124 |
| 5.7 Conclusion | 147 |
| CHAPTER SIX | 148 |
| CONCLUSION AND RECOMMENDATIONS..... | 148 |
| 6.1 Introduction..... | 148 |
| 6.2 Conclusion of the study..... | 148 |
| 6.2.5 Recommendations | 152 |
| 6.2.6 Recommendations for future studies..... | 153 |
| 6.2.7 General conclusion..... | 153 |
| 7. REFERENCES..... | 154 |

| Figure no. | Title | Page no. |
|-------------------|------------------------|-----------------|
| 4.1 | KwaDukuza Municipality | 111 |
| | | |

List of Tables

| Table no. | Title | Page no. |
|------------------|---|-----------------|
| 2.1 | Classification of waste | 35 |
| 2.2 | Sources & types of municipal solid waste | 36 |
| 2.3 | Examples of material classification | 38 |
| 2.4 | Classifications of waste based | 39 |
| 3.1 | Doctrine of new public management | 94 |
| 5.1 | The cronbanch's alpha score | 118 |
| 5.1.1 | Gender | 118 |
| 5.5.2 | Race | 119 |
| 5.5.3 | Position | 120 |
| 5.5.4 | Experience | 121 |
| 5.5.5 | Education | 122 |
| 5.12 | Willingness to pay-ward | 123 |
| 5.13 | Willingness to pay for collection-waste company | 125 |
| 5.14 | Effect of privatisation-ward | 127 |
| 5.15 | Effect of privatisation-waste company | 129 |
| 5.16 | Strategies for the improvement-ward | 130 |
| 5.17 | Strategies for the improvement-waste company | 135 |
| 5.18 | Household satisfaction-ward | 137 |
| 5.19 | Household satisfaction-waste company | 139 |
| 5.20 | Ranks | 140 |

CHAPTER ONE

INTRODUCTION & BACKGROUND

Introduction

The merging of three local authorities in 2000, namely: Stanger, Zinkwazi, and Dolphin Coast produced the KwaDukuza Municipality. This merger was in terms of chapter 2 of the Municipal Demarcation Act 27 of 1998. KwaDukuza is one of four local municipalities that constitute the ILembe District Municipality. The KwaDukuza Municipality comprises 29 wards, of which eight fall within the area of the study, (former Dolphin Coast Municipality). Before the amalgamation, the then Borough of Dolphin Coast privatised the collection of solid waste within its area. When the amalgamation took place, KwaDukuza Municipality found itself in a position where some of its area had the collection of solid waste privatized, while having another section dealing with this responsibility internally. Dolphin Coast Local Council had entered into a delivery partnership with Dolphin Coast Waste Management Company (private entity), to deliver solid waste management services in Dolphin Coast area. This left the remainder of the KwaDukuza area serviced by the conventional in-house delivery mechanism.

The practice of managing solid waste in communities can be traced back to the days before the concept of waste management developed into its current form. Communities from poor backgrounds have always relied on traditional methods of waste management; such as burning solid domestic and garden waste. The immediate drawback of which is the effect of

harmful emissions into the atmosphere. As part of government intervention in establishing and maintaining an environment that is not harmful and free of risk, access to waste management services was extended to communities previously not serviced.

KwaDukuza Municipality has shown an interest in addressing backlogs of domestic solid waste collection services. The challenge is, as the services are being expanded, average revenues per consumer are falling as more and poorer households are serviced. The municipality has implemented free essential refuse services. This means the municipality is subsidising the service.

1.2 Background to the study

Sections 24 (a) and (b) of the Constitution of the Republic of South Africa, stipulate the importance of everyone having the right to an environment that is harmless to health and wellbeing. Also, they ensure the protection of the environment for the sake of the present and future generations. It is in this regard the state is obliged to take measures to ensure these prescriptions in the Bill of Rights are met. The government is responsible for meeting the mandate spelt out in the Constitution, specifically in section 27(2), which stipulates the government must take reasonable legislative steps, within its resources, to achieve the progressive realization of the Bill of Rights.

In support of the Constitution, 1996, The National Environment Management Act 59 of 2008, stipulates the importance of protecting health and the environment by providing reasonable steps for the prevention of pollution and ecological degradation, as well as securing ecologically sustainable development; by providing institutional arrangements and planning matters; by delivering the national norms and standards for regulating the management of waste by all government spheres and sectors; by providing for specific waste management measures; by providing for the control and licensing of waste management activities; by providing the remediation of contaminated land; and by providing the national waste information system and providing for enforcement and compliance.

There are several gaps identified in the waste collection status quo in the KwaDukuza Municipality. These include, extending the access to residential waste collection services, resources and infrastructure, waste drop-off facilities, human and other resources, waste education awareness, and a waste information management system. According to KwaDukuza municipal IDP 2016/17, some of the factors affecting waste management in the KwaDukuza Municipality include the implementation of integrated waste management principles promoting waste avoidance, minimisation of waste, waste prevention, recycling, refuse, and safe waste disposal.

According to the 2017 IDP, some of the issues related to the privatisation of waste collection in KwaDukuza, include a lack of supervision of the contracted services within the municipality; low coverage of waste collection; and not having the standards and systems in place. Also, the skip waste collection systems are not in line with the disposal patterns of citizens, leading not only to an overflow, but also to skips not being used or a limited number of skips. The distribution of skips and collection of bags is also not efficient (Kwadukuza integrated waste management plan 2016).

1.3 Definition of terms

- Privatisation - according to Calitz (2011:13) entails services formerly rendered by the government as part of the flow of public services supplied by private firms.
- Isaac (2002:128) defines privatisation as the selling of public assets to the private sector and the removal of the government from a particular aspect of economic activity, to allow the private sector to take over these services.
- Waste is defined by Landon (2011:70) as material, substance, or product no longer wanted at a given place and time.
- Waste - as defined by the National Environment Management Act 59 of 2008 - means any substance discarded, surplus, unwanted,

rejected, abandoned, or disposed of, and for which the owner has no longer need: that must be treated or disposed of.

- The National Environment Management Act 59 of 2008 describes municipal solid waste as “any household waste, garbage, industrial lunchroom or office waste, refuse, household hazardous waste, yard waste, and any other material resulted from the operation of residential, municipal commercial or from community activities”.

1.4 Research problem

The solid waste sector in KwaDukuza has not been able to provide an adequate and sustainable solid waste service to the people. The main problem in this municipality is the inadequacy and unsustainability of access to solid waste services for the community. This poor state of solid waste management, is characterised by inadequate coverage; irregular waste collection; indiscriminate dumping; waste spillover from bins and storage containers and waste littering – this leaves much to be desired. Local government responsible for solid waste management is faced with two challenges. The first being inadequate access to solid waste service, especially in middle and low-income urban communities. The second challenge, is the poor quality of solid waste services being rendered in the middle and low-income urban communities which do have access. Residents from communities with access want a better quality of service; these are improved frequency and reliability of waste collection;

avoidance of waste spillover from bins and storage containers and a responsive customer complaints management system.

This research topic was selected because of practical problems experienced in the area. The privatisation of solid waste collection has led to an unaffordable price for this service. The number of illegal dumping areas has increased because of people not paying for the service. The privatisation of solid waste collection has resulted in garbage and waste being uncollected in the area. Uncollected waste piles up and eventually stinks, which pollutes the residential area. The settlement will eventually become unhygienic and unhealthy to humans. Sodhganda (2013:36) made a study and found primary reasons for growing municipal waste generation are changing lifestyles and food habits; changes in standards of living; fast economic development and urbanization and development of the tourism industry. The major part of the municipal solid waste comes from households, hotels, schools, institutions, parties and garden refuse.

1.5 Aim

Dawson (2006:59) emphasises that aim is the overall driving force of the research, and the objective is how one intends to achieve the aim. The main aim of this study is to examine the performance of private municipal solid waste collection in the KwaDukuza area. It also provides a basis for addressing some of the shortcomings through an analysis.

1.6 Research objectives

The objectives of the study were the following:

- To determine citizens' willingness to pay for the collection of solid waste in KwaDukuza municipality.
- To determine the effect of privatisating of solid waste collection on poor households within the KwaDukuza municipality.
- To assess the strategies in place for better management and collection of solid waste in the KwaDukuza municipality.
- To determine the level of household's satisfaction with the privatised service of waste collection in the KwaDukuza municipality.

1.7 Research questions

The main research questions for this study are the following:

- Is a citizen of KwaDukuza willing to pay for a solid waste collection service?
- What effect does privatization of solid waste have on the impoverished community of KwaDukuza?
- What can be done to ensure a better waste collection management system in the area?
- What is the household's level of satisfaction regarding the privatisation of waste management?

1.8 Preliminary literature review

According to Du Plooy (2005:57), a literature review involves the collection and reviewing of current data relating to the research topic. He explains the intention of conducting a literature review is to determine the material associated with the conceptual focus of the research problem. In support of the above, Neuman (2000:445) indicates a literature survey is founded on the assumptions knowledge accumulates and researchers learn from, and build on, what others have done. Scientific research is regarded as a collection of the efforts of different researchers who share results and who pursue knowledge as a scientific community. The writers mentioned above explain the goals of a literature review include the following:

- Showing of a path by previous research and how a current study is linked to it;
- Demonstrating of familiarity with the body of knowledge and establishing credibility;
- Integrating and summarising what is already known in a study; and,
- Learning from other researchers and creating new ideas.

For this study, a literature review was conducted in the form of scholarly journal articles, books, government documents, dissertations, and policy reports sourced from the university library. It also included papers from professional societies.

Several scholars have investigated waste management, for instance, researchers such as Kinnaman (2009), Ren and Hu (2014) and Godfrey and Oelofse (2017) conducted studies on waste management and financial resources. On the other hand, scholars such as Bullard (2005), Karak, Bhagat and Bhattacharyya (2012), Sentime (2013), Kubanza and Simatele (2015), Kubanza (2016), Dlamini, Simatele and Kubanza (2018), Dlamini and Simatele (2019), Banerjee and Sarkhel (2019) conducted studies on waste management, social and environmental injustices, and socio-economic development. Furthermore, scholars such as Sodhganda (2013), Simelane and Mohee (2015), Joshi and Ahmed (2016), Godfrey and Oelofse (2017), Schenck *et al.* (2018), Rasmeni and Madyire (2019) conducted studies on waste disposal and management, population growth, landfill capacity, waste on climate change. Hence, there is a lack of studies that have been conducted that investigate the effects of privatising the solid waste collection service especially in KwaDukuza Municipality, KwaZulu-Natal.

1.8.1 Local government and service delivery

Section 5 of the Constitution stipulates refuse dumps, refuse removal, and solid waste disposal are the exclusive functional area of local government. It is in this regard the KwaDukuza Municipality carries the duty of ensuring the waste is collected and removed.

The Constitution of the Republic mandates local government with powers and functions of waste collection and of the establishment of waste disposal sites; the operations and control thereof; bulk waste transfer

facilities and waste disposal facilities within their area. This indicates even after privatisation has taken place, the municipalities have the final obligation in ensuring this type of service reaches all those who need it.

Section 25 of the Municipal Systems Act 32 of 2000, mandates every municipality is required to prepare an Integrated Development Plan (IDP). The IDP is the cornerstone of municipal service delivery. One of the key components of the IDP is an Integrated Waste Management Plan, which, in terms of the National Waste Management Strategy, must implement the integrated management of waste with an emphasis on waste avoidance and minimisation, through to responsible disposal.

Some scholars argue solid waste is a public health issue, and therefore the government should play a significant role in maintaining oversight control. The government plays a dual role in this matter; it is both a player and watchdog. The purpose of waste collection is one of the primary duties, but the role of enforcing the health and environmental issues need to be equally important.

According to Oduro-Kwarteng (2011:3), the challenges associated with waste collection and management include not only the resources and political will, but also the weak enforcement of by-laws by municipalities. A history of defiance also contributes to the attitude of the people towards indiscriminate disposal at unauthorised places; that is, waste littering. The implementation of regulations by government officials appears to be weak

and this may be due to lack of capacity, lack of resources, and political will.

The present economic conditions have not only forced the private market to reduce costs (Berley, 2011:01), but they have also changed the culture of local government in the re-evaluation of operating budgets. Local governments have been forced to decrease services, reduce programmes, and reduce the number of staff. This has led the majority of local governments to opt for the privatising of their solid waste departments.

1.8.2 Waste management

Miller and Spoolman (2011:381) propose, generally, in the environment, there is virtually nothing that should be wasted, because the waste of one organism is supposed to provide nutrients for others. It is said humans produce vast amounts of waste that goes unused, which pollutes the environment. It is in this regard the government needs to play a vital role; not only for the purposes of regulating, but also regarding the management of waste in the country.

Local Government is assigned the task by the Constitution of ensuring the provision of services to communities in a sustainable manner and the promotion of a safe and healthy environment. This responsibility is given effect through The National Environmental Management Act (Act 107 of 1998) and Environment Conservation Act (Act 73 of 1989) address waste management, particularly litter and the permitting of waste disposal sites.

The Constitution entrusts local government with the responsibility for waste removal, refuse sites and solid waste disposal. This is achieved primarily, by means of - among others - the Health Act (Act 63 of 1977); the Occupational Health and Safety Act (Act 85 of 1993) and the Municipal Structures Act (Act 117 of 1998). Local municipalities have the responsibility of collecting and disposing of waste within their area, while district municipalities are responsible for the planning, establishment and operating of regional landfill sites in their area. The Municipal Systems Act (Act 32 of 2000) states how these functions and powers should be exercised. Municipalities, as the sphere of government closest to the people, have the responsibility to pass by-laws and enforce existing litter laws (Environment Conservation Act) and to ensure litter is cleared from the streets, so it does not pose a health hazard. In order to finance this mandate, municipalities are authorised as a service authority to set tariffs for the collection and disposal of waste within their respective municipal boundaries. In the event this service is outsourced, among other matters addressed in the respective legislation is the process required to decide on and set up Municipal Services Partnerships aimed at improving on service delivery.

Section 84(1) (E) of the Municipal Structures Act stipulates municipalities have the following powers and duties:

- Establishing a waste disposal strategy;
- Enforcing the waste disposal strategy; and

- Waste management by-laws enforcement at waste disposal sites involving bulk waste transfer areas, and waste disposal facilities for more than one local government in the district.

Household waste collection in KwaDukuza starts by providing waste bags (about 2 per household). The residents take the bags and place them on the kerbs; this system is also known as door-to-door. The collectors take them from the house and empty them in their vehicle.

The kerbside collection of waste is the primary means of waste collection, however other forms of waste collection do exist. For residual waste collection containers (in some inner areas) are used. The normal collection vehicle used in KwaDukuza, is the back loader with 2-3 operators. For separate collection there are some little stations along the road with some containers to collect paper, plastic, and glass. The container system along the road was established all over KwaDukuza. KwaDukuza, waste is collected in different ways. The situation regarding kerbside collection is waste trucks picks up on fixed days in different areas. The bins are emptied regularly, anywhere from a two day to a two-week interval.

1.8.3 Privatisation

Privatisation of public services in the mid-nineties was a simplified approach to the management of public assets (Isaacs, 2002:128). The

practice came informed by promises of lower costs, efficiency, and modernisation of the services in question.

According to Onyanta (2012:1), privatisation of public services was caused by several issues, from institutional constraints to limited financial and human resources. Privatisation, a form of Public-Private Partnership (PPP), in which the state transfers some or all aspects of service delivery to the private sector, became the preferred mode of service delivery following the introduction of the Structural Adjustment Programme (SAP) in 1980.

A solid argument is put forward by Bendix (2010:450), who stated because of globalisation and the need for ever-increasing efficiency, organisations are sticking to the core functions of their business, consolidating these duties and casting off outsourcing secondary activities and functions. The challenge that can be drawn from Bendix' s statement is it is clear the majority of public companies privatise or outsource what is said to be secondary functions, and leave the core functions for reasons such as financial costs and legal and operational requirements, and ignore the significant human resources implications of such transactions. In terms of the government, the functions being outsourced are the core functions mandated by the Constitution and other primary national legislation. The challenge with the privatisation of primary functions, is it compromises the obligation of providing the function as well.

The argument is raised by Kassim (2009:02), while there is a role for the private sector to work with the government in delivering this service, awarding a collection of solid waste to one company may benefit only one or a few individuals. Kassim indicates in some countries where the privatisation of waste collection has taken place, the contractors use different methods of waste collection, including door-to-door and pushcarts in impoverished areas. These methods then work hand-in-hand with trucks in transferring the waste to stations.

The outsourcing of waste management has long been one of the sector's fundamental issues. Gerlat (2011) indicates this debate is far from being over: it is reported privatising the collection may result in cost reduction. Different arguments by many writers suggest a private waste operation seems to be better in terms of safety records, as opposed to the public sector.

According to Begley (2011:01), the municipal waste departments are currently facing low operation budgets, climbing increases in operating costs, rising operating costs of replacement capital expenses, and skyrocketing exposure to environmental liability. These challenges make privatisation appear more attractive. A different view is put forward by Kassim (2009:112), who maintains the cities around Africa are rapidly urbanising. As a result, local governments are not able to cope with the high population increases. He indicates this results in a relatively large quantity of solid waste, which is inefficiently managed and poorly controlled.

Onyanta (2012:1) also support Kassim by stating a corresponding increase is following rapid urbanisation in demand for solid waste services. Still, in large part, governments are unable to maintain or improve the level of service delivery.

Ntshangase (2002:130) says the public sector does not have sufficient resources to render services to the public. Furthermore, the author suggests the private sector is the only available option to replace the public sector. The injection of money by the private sector into the public sector is recommended by Ntshangase (2002:130). This can be challenged, because when too much contribution by the private sector is allowed, the service fees will be driven by a profit motive, and the state will fail in its duty to ensure the services reach even the poorest of the poor.

According to Mfuku (2006:29), privatisation has been undertaken and chosen for a number of reasons, including, increasing revenues for the government, decreasing the drain on state resources caused by public sector losses, helping pay off foreign debt by raising foreign exchange through the sale of state assets to foreign multinational and improving economic efficiency. From Mfuku's point of view, the privatisation of public resources is done not because the private sector is the best provider. Hyman (2003:10) also emphasises different countries have adopted public-private partnerships for various reasons. Some government departments use it as a tool to address crisis situations in service delivery provision, and others as a response to increasing the extent and efficiency

of service delivery. Several factors are sensitive when it comes to a public-private partnership. Some of these factors include the affordability of services, labour security, the private sector exploitation, and responsibility for providing basic services.

1.9 Theoretical Framework

Gruening (2001:1) argues, The New Public Management movement began in the late 1970s and early 1980s. Its first practitioners emerged in the United Kingdom under Prime Minister Margaret Thatcher and in the municipal governments in the U.S. Only later did academics identify the common characteristics of these reforms and organize them under the label of New Public Management.

In this study, one of the Public Administration theories was used. According to Neuman (2000:59), a theoretical framework is more abstract than a formal theory. Public Administration is the amalgamation of history, organizational theory, social theory, political theory and related studies focused on the meanings, structures and functions of public service in all its forms. Public Administration Theory has three approaches: Classical Public Administration Theory, New Public Management Theory, and Postmodern Public Administration Theory.

This study focused on a New Public Management approach. It is said a common feature of countries choosing the New Public Management route has been the experience of economic and fiscal crises, which triggered the quest for efficiency and for ways to cut the cost of delivering public

services. The idea with privatization of solid waste is to cut cost and ensures efficiency.

The New Public Management focuses on decentralisation of service delivery to local governments. Public services delivery, such as water supply, sanitation and solid waste services have been encouraged to be privatized. The whole idea with New Public Management promoting the privatisation of services, is to achieve improvements in service delivery. According to Agboje (2014:8), the strategy of delivering modern, high quality public services and promoting competition in the waste management sector leads to formation of private sector participation to handle solid waste management.

Oduro-Kwarteng (2011:43) elaborates that key elements of New Public Management theory may be categorized into two main strands; on the one hand, are ideas that emphasise managerial improvement, and on the other hand are techniques and practices that emphasise markets and competition.

Two primary arguments are presented for why such market mechanisms will prove successful. First, it is assumed this will reduce the financial burden on the state. Second, it is argued reforming service provision along market mechanism lines will result in improved quality of service. This study attempts to use the second strand in explaining the involvement and regulation of the private sector. The theoretical case is that the participation of the private sector in service provision will lead to

improved pricing and user charging, better service quality, improved productivity, and responsiveness to users.

1.10 Importance of the study

The results of this study are going to be useful for improving solid waste management service delivery in ensuring effective and efficient solid waste collection. The output will be helpful for the KwaDukuza Municipality in policy formulation around issues of environmental and service delivery.

Now the study is completed, the results will be shared with various stakeholders, including the KwaDukuza municipality, and copies will also be available in public libraries as a matter of academic contribution to the body of knowledge. The research results are going to be kept in the university library so other people may also learn from the findings. The remaining copies will be handed over to the Municipality and to Dolphin Coast Waste Management Company to be kept for the public to read. Apart from the written report, an oral presentation to a particular institution will also be presented.

If the privatisation of solid waste collection is seen as the solution in KwaDukuza, why do thousands of people continue with illegal dumping around this area? This research topic was selected because of practical problems experienced in the field. Access to quality and reliable waste

management for some residents remains an un-met need. For those who have access to a private-sector collection service, the service is not reliable or effective – there is unreliable collection, bins overflow, and waste litter everywhere.

The municipal collection and management of solid waste poses a problem, not just in the KwaDukuza area, but in other parts of the continent as well (Agboje, 2014:8). Municipal solid waste management constitutes one of the most important health and environmental problems facing governments of African cities. Inefficient waste management has resulted in poorly controlled open dumps and illegal roadside dumping, which may pollute the soil, water and air and pose health hazards. According to Botkin and Keller (2012:488), illegal dumping is regarded as a social problem as much as a physical one, because people are depositing waste as a quick solution and not regarding garbage as an environmental issue.

1.11 Justification of the study

According to schedule 5 B of the Constitution Act 108 of 1996, waste management is an essential service to be provided by local government. The problem investigated in this research was the quality of services associated with privatization of solid waste collection in the area of KwaDukuza.

The municipality of KwaDukuza is currently reviewing the method of in-house waste collection and intends to replace it with outsourcing. The study may be used by such municipality in determining a better method

of solid waste collection for its citizens. If this study had not been done, KwaDukuza municipality may have continued to give a service of lower quality through privatization. The KwaDukuza Municipality faces problems such as inequity, which deals with perceptions as a result of different service models and standards. Furthermore, if this study had not been done, failure of efficient delivery of solid waste services could lead to an unhealthy and polluted environment. This will not only disrupt the eco-system, but will also cause disease.

1.12 Research methodology

The section explains the research design, research approach, study site, population & sampling, as well as the data collection method.

1.12.1 Research design

According to Neuman (2000:21), there are three main purpose of a study: explore a new topic, describe a social phenomenon or explain why something occurs. Explanatory research has been used for this study. Explanatory research was chosen because a number of researchers have conducted this research and, therefore, cannot be regarded as exploratory or as descriptive research, as it does not describe the phenomenon. This design answered the question of why. The current status of solid waste management and collection is in a bad state and the question is why? Could it be that the privatisation of solid waste is one big problem?

1.12.2 Research approaches

According to Creswell (2014:18), there are three research approaches, which are qualitative, quantitative and the mixed-method approach. In

this study, a quantitative research methodology has been used. The study has relied on questionnaires, secondary data and relevant legislation, articles, government publications and the input of affected stakeholders, which included ward committees and ward councilors. The quantitative method was used in order to address the question of, to what degree the people of KwaDukuza are impacted (affected or not affected) by the privatisation of solid waste collection (Terrell, 2016:26). This study focused on measuring the impact and therefore neither qualitative nor mixed methods could have been used as an option for the study. In quantitative research, the researcher was detached; this has assisted in ensuring the research is not biased. Mason (2014:9) notes the disadvantage of qualitative research is the researcher is involved in the process; this could lead to the participants being influenced by the researcher.

Quantitative research was preferred in this project because it ensures a high level of privacy for the respondents, as opposed to the qualitative method. This view is supported by Toseland and Rivas (2012:189), who suggest one of the great challenges with qualitative research is the lack of privacy; hence the researcher also becomes the participant. Winner and Dominick (2011:49) indicate a quantitative study requires variables which are under consideration, be measured. The writers recommend the advantage of using quantitative research is a high degree of accuracy in the reporting of results as a result of using numbers.

1.12.3 Study site

The KwaDukuza Municipality (KZN292) is situated in the north coastal region of KwaZulu Natal, about 50km north of Durban. It has a population of approximately 276,716 inhabitants, according to Statistics South Africa (Census) 2016. This number increases in the festive season to about 320,000 people because of holidaymakers. The KwaDukuza Municipality comprises an area of approximately 735sq.m between the Tongaat and Tugela Rivers in the northern coastal region of KwaZulu Natal. Census 2016 indicates the KwaDukuza area consists of 47,524 dwellings. This municipality was formed by the merging of three local authorities in 2000, namely: Stanger, Zinkwazi and the Dolphin Coast. This merger was in terms of chapter 2 of the Municipal Demarcation Act 27, of 1998. KwaDukuza is one of four local municipalities that constitute the formation of the ILembe District Municipality. The KwaDukuza Municipality comprises 29 wards of which eight fall within the area of the study (former Dolphin Coast Municipality).

The study site for this research was the southern part of KwaDukuza. This was previously known as the Dolphin Coast Municipality. The site consists of eight (8) out of 29 wards of the KwaDukuza Municipality. The criteria for the selection was based on these eight wards being the only area of the municipality where the service is privatised. The study was not carried out in the remaining other wards since the service is provided in-house.

1.12.4 Population and sampling

This section focuses on the population and sampling method used in this study.

1.12.5 Target population

A target population is explained by Nueman (2000:201) as being the specific pool of cases the researcher intends to study. The target population was the areas/ wards affected by privatisation of waste collection. KwaDukuza consist of 29 wards, and there are eight affected wards. Furthermore, the waste collection company was also targeted by this study. Hence, the target population consisted of both eight wards and a waste collection company. It is often not practical to study the entire population; therefore it becomes important to make general findings based on a study of the affected population.

1.12.6 Sampling strategy and size

A sample is a representation of the population being studied; it is drawn from the population. According to Dawson (2006:42), sampling is the process of selecting a smaller, more manageable number of people to take part in the study. Wimmer and Dominick (2011:87) regard it as a subset of the population, representative of the entire population. There are two types of sampling strategies (Bhattacharjee, 2012:67), namely non-probability, and probability sampling. Non-probability sampling is a sampling technique in which some units of the population have no chance of being selected. The challenge with this type of strategy is the lack of accuracy. Non-probability sampling is often used in qualitative research

whereas probability sampling is a technique in which all units in the population have a chance of being nominated in the sample, and is commonly used in quantitative research. This study applied a probability sampling strategy.

The probability consisted of a number of types. For this research, a simple random sampling was used. In this technique, all possible subsets of a population are given equal chances of being nominated when selecting a sample. This system was preferred for this study because the possibility of classification errors was removed, and a representative of elements was fair and equal.

The primary data was obtained from ward committee members and waste company employees through questionnaires. Therefore primary data was received from 80 participants; 70 ward committee members and ten from waste collection company employees.

1.12.7 Data collection methods

The intention of this section is to indicate the type of data collection e used for the study. This section focuses on research methods. According to Winner and Dominick (2011:117), the research method is a specific technique for collecting information following the assumptions of the chosen methodology. Researchers who chooses the quantitative approach will use methods such as surveys. When the survey is chosen, the researcher will use questionnaires. As explained by Goddard and Melville (2011:47), a questionnaire is a written set of questions

respondents are asked to answer. The questionnaires can take the form of an open-ended questions or closed-ended questions.

An open-ended question is defined by Neuman (2000:260), as a question asked by a researcher so the respondents can give any answer. This type of question is unstructured or are free-response questions (Neuman, 2000). Furthermore, the author explains closed-ended questions or so called structured or fixed response questions are questions that give respondents fixed responses from which to select. Both these types of questionnaires have disadvantages and advantages. The data collecting method was used in this study was in the form of a questionnaire (Neuman, 2000). This was done through developing closed-ended questions. This type of question assisted in developing statistics required in this quantitative research. Since this was quantitative research, participants needed to indicate whether they were in favor of the KwaDukuza Municipality privatising the waste collection and if they were in favor, the level of satisfaction was also indicated.

The questionnaire was chosen because of the following reasons:

- Firstly, the researcher wanted to give guidance to the participants and ensure only the required information was given; and
- The researcher did not influence the participants; there was no pressure on the participants to respond in a particular way.

One of the limitations of this method is it may be expensive and it also lacks feedback.

Salkind (2014:77), explained there are two types of research: one is basic research, and the other is applied research. Applied research is used to solve a problem. The driving goal of this type of research is the use of the results, whereas basic research intends to advance fundamental knowledge about the social world. This study used basic research. This basic research was a descriptive one. It was addressing the “How?” question. The question to be answered was “How does privatisation of solid waste collection impact on the community of KwaDukuza?”

1.13 Data quality control

The information received was saved on a computer protected by a password. Such a computer was in a safe and secured office with alarm and burglar guards and patrolled by a security officer. Some of the information was saved on a universal serial bus that was locked in a safe. Once the study was completed and the information no longer required, it was deleted from the computer. The information universal serial bus in the safe was destroyed.

1.14 Measurements

Nueman (2001:157) says measurement assist by letting us observe things once unseen and unknown, but predicted by theory. Quantitative research

requires measurements be both accurate and reliable. The researcher assigns numbers or values to the attributes of people, objects, events, perceptions or concepts. This process is referred to as measurement. The variables measured are commonly classified as being measured on a nominal, ordinal, interval or ratio scale. A scale is a measure in which a researcher captures the intensity, direction, level, or potency of a variable construct. The most commonly used scales are: Likert scale, Thurstone scaling, Bogardus social distance scale, semantic differential and Guttman scaling.

For the purposes of this study a Likert scaling is used. This type of scaling is also called summated rating or additive scales. The score on the scale was computed by summing the number of responses the person gave. The quantitative explanatory variables can be converted into indicator variables. Variables that do not have any natural scale of measurement; such variables can be quantified by artificially constructing the variables that takes the values, such as the number.

1.15 Data analysis

According to Creswell (2014:153), in quantitative data analysis raw numbers are turned into meaningful information through the application of rational and critical thinking. Quantitative data analysis may include the calculation of frequencies of variables and differences between variables. A quantitative approach seeks to find evidence to either support or reject hypotheses formulated in earlier stages of

the research process. The results of the study were analyzed and the findings presented and interpreted.

This section of the study reports information about the number of members of the sample who did and did not return the survey. It also discusses the method by which a bias response was determined, a plan to provide a descriptive analysis of data for all independent and dependent variables in the study. The last stage in the data analysis is to present the results in tables or figures and interpret the results from the statistical test. An interpretation of the results meant the researcher drew conclusions from the results for the research questions, hypotheses, and the larger meaning of the results.

1.16 Ethical consideration

Participation in the research was voluntary. Any information needed was obtained through consent. Consent included informing the participants about their rights, the aim and the intention of the research and the potential hazards or dangers, if any, as well as the advantages of participation. Participants did so willingly. The consensus document was presented to the participants in plain language to ensure effective communication, and was signed by the participant as an indication of his/her consent. The anonymity of the participants was always confidential. In this study participants were given a choice to withdraw from the study when not happy with proceedings.

1.17 Limitation

The study is limited to the KwaDukuza area only. The study exclusively focused on the municipal wards where the collection service is being privatised. This study was, therefore, limited to eight (8) of the 29 wards of the Municipality. The study was expected to have challenges in collection of questionnaires considering the meeting of ward committees is not always guaranteed enough seats or also to have full attendance.

Ward councilors, together with affected stakeholders, would not want to expose their organization or paint them with negative ideas. To avoid the above, a clear explanation was given to the role players regarding the purpose of the research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a literature review on the privatisation of waste management. The chapter deals with the understanding of waste management, classification of waste, global, regional and local context of waste management, the regulatory and legal framework on solid waste management in South Africa, and goals of waste management. The chapter discusses the principles of waste management, concept, origin, and meaning of privatisation, stakeholder involvement in waste management, private sector service delivery and its advantages and limitations. Finally, the chapter provides a summary.

2.2 Understanding Solid Waste Management

Solid Waste Management (SWM) is defined as managing the processes involving solid waste collection, treatment and disposal of waste generated in households, commercial and business establishments, institutions, and non-hazardous industrial process waste (Tchobanoglous, Theisen, and Vigilet, 2013:14). Tchobanoglous et al. (2013) group the direct activities of solid waste management into six functional elements: (a) waste generation and characterization, (b) on-site storage and handling, (c) collection, (d) transfer and transport, (e) separation processing, treatment and resource recovery, and (f) final disposal as briefly discussed below.

2.3 The classification of waste

According to World Bank (2009), waste can be classified into four types, including their sources, physical state, material composition, and the level of risk associated with waste substances, as presented in table 2.1 below. Such a classification of waste provides a basis for the development of appropriate waste management practices.

Table: 2.1: Classification of waste

| Criteria for classification | Examples of waste types |
|---|---|
| Sources or premise of generation | Residential, commercial, industrial, agricultural, municipal, services etc. |
| Physical state of waste material | Liquid, solid, gaseous, radioactive |
| Material composition of waste | Organic food, paper, plastic, glass, metal, textile waste |
| Level of risk | Hazardous, non-hazardous |

Source: World Bank (2009)

Based on table 2.1 above, waste can be classified based on the source-classification, which is based on waste emanating from different sectors of society such as residential, commercial, and industrial sources. A good example of the source classification was provided by the World Bank (2009), in a study in Asia that identified the sources of waste as residential,

commercial, industrial, municipal services, construction and demolition, processing, and agricultural sources as demonstrated in table 2.2. Waste can also be classified based on its physical state, which includes liquid, solid, gaseous, and radioactive waste. Waste can also be classified based on the level of material composition, and risk, which is hazardous or non-hazardous. The table below (2.2) presents sources and types of municipal solid waste.

Table 2.2: Sources and types of municipal solid waste

| Sources | Typical waste generator | Types of solid waste |
|--------------------|--|--|
| Residential | Single and multiple family dwellings | Food waste, papers, cardboard, plastic, textiles, glass, metals ashes, social waste, (bulky items, consumer electronics, household hazardous waste etc.) |
| Commercial | Stores, hotels, restaurants, markets, offices. | Food waste, papers, cardboard, plastic, glass, metals ashes, social waste (bulky items, consumer electronics), office hazardous waste etc. |

| | | |
|------------------------------------|---|---|
| Institutional | Schools, government centres, hospitals, prisons etc. | Papers, cardboard, plastic, glass, metals, ashes, special waste (bulky items, consumer electronics, office hazardous waste etc.). |
| Municipal sources | Street cleanings, landscaping, parks, beaches, recreational centres. | Street sweepings, landscape and tree trimmings, general waste from parks, beaches and other recreational centres |
| Construction and demolition | New construction sites, road repair, renovation sites, demolition of buildings | Wood, steel, concrete dirt. |
| Process (manufacturing) | Heavy and light manufacturing, refinery, chemical plants, power plant, mineral extraction and processing. | Industrial process water, scrap materials, clay, tailings |
| Agriculture | Crops, orchards, vineyards, dairies, feedlots, farms. | Spoilt food waste, agricultural waste, hazardous waste |

Source: World Bank/IBRD (2009)

The United Kingdom Environment Council (2010) also employed source classification to identify the significant sources of waste as municipal sources, commerce and industry, agricultural sources, demolition and construction activities, dredged spoils, sewage sludge, and mining and

quarrying operations. Classifying waste by its source is a useful way of determining the relative contributions of the different sectors of society to the waste stream and how to plan for its collection and disposal. Very often, the composition of the waste stream is also used to classify waste into such types as organic waste, paper and cardboard, plastic, glass, ceramics, textiles metal and inert waste as shown in table 2.3. This type of waste classification based on material composition was conducted by the World Bank in 2012. An analysis of household waste streams in the county identified nine main types of materials: paper/card, plastic film, dense plastic, textiles, miscellaneous combustibles, glass, ferrous metal, garden waste, and food waste. Table 2.3 presents some examples of material classification of waste type.

Table 2.3: Examples of Material classification of waste type

| Waste type | Example |
|-----------------|---|
| Paper | Newspaper, Cardboards, Office waste paper, Magazine, Glossy |
| Plastics | Bottles, Expanded polystyrene, Film plastic, Other rigid plastics |
| Glass | Clear glass, Green glass, Amber glass, Non-recyclable glass |

| | |
|------------------|---|
| Metals | Steel cans, Aluminium can, Other Ferrous, Other aluminium |
| Organics | Yard waste-grass, Yard waste-other, wood, textiles, diapers, other organics |
| Inorganic | Electronics, carpets, drywall, other construction and demolition, other inorganic |

Source: World Bank (2012)

Using the physical state of waste substances, the materials in the waste stream can also be categorized into liquid, solid, gaseous, and radioactive wastes. Examples of these types are shown in figure 2.4. The liquid waste includes sewage sludge and wastewater from bathhouses, and kitchens, while solid waste includes food waste, paper, plastics, bottles, metals and debris. Waste could also be classified as gaseous, which includes smoke from factories, exhaust fumes, and fumes from burning waste gas. Radioactive waste also includes uranium, radiation and plutonium. Table 2.4 outlines the classification of waste based on the physical state of waste substances.

Table 2.4 Classification of waste based on physical state of waste substances

| Waste type | Examples |
|-------------------|-----------------|
|-------------------|-----------------|

| | |
|--------------------------|--|
| Liquid Waste | Sewage sludge, Waste water from bath houses and kitchens |
| Solid Waste | Food waste paper, plastic, metal, debris |
| Gaseous Waste | Factory smoke, vehicle exhaust, smoke, fumes from burning waste gas, |
| Radioactive Waste | Radiation, uranium, plutonium, excess energy |

Source: United States (US) Environmental Protection Agency (EPA) (2008)

Furthermore, the potential health or pollution risk of waste materials is also used to classify wastes into hazardous or non-hazardous waste (US EPA, 2008). On the one hand, hazardous waste refers to waste with properties that make them potentially harmful to human health or the environment (US EPA, 2008). According to the US EPA (2008), hazardous wastes can be liquids, solids, contained gases, or sludge and can be the by-products of manufacturing processes or simply discarded commercial products like cleaning fluids or pesticides. Because of their potential pollution danger, hazardous waste materials require rigorous and cautions means of disposal (DELM, 2013). In the EPA’s Hazardous Waste Listings (2008) the categories of hazardous waste include ignitable waste, corrosive waste, reactive waste, toxicity characteristic waste, acute hazardous waste and toxic waste. Special waste is one type of hazardous

waste, which is usually so dangerous to treat, keep or dispose of, it requires special disposal arrangements (US EPA, 2008). Examples include hard clinical waste such as human parts, contaminated swabs and sharp items.

On the other hand, non-hazardous waste does not pose a danger. It can be dealt with easily; examples being inert materials such as uncontaminated earth and excavated waste such as bricks, sand, gravel and concrete slates (Environment Council, 2010). However, the broad classification solid waste into various types as is given by the developed countries institutions, neglect the obvious practicalities and limitations in developing economies, where even for those living there, getting the right data on waste types is a challenge. Such a position appears rather simplistic, artificial and provides little realistic guidance for environmental policy makers in developing countries.

2.4 Solid waste management in a global context

The world is faced by the issue of municipal solid waste management and it is a major problem in terms of the volumes of waste generated by human lifestyles. To date, population growth, higher economic development, and improving human lifestyles contribute to the rising volume of waste every day (Minghua *et al.*, 2009). Every year approximately 1.3 billion tonnes of municipal solid waste are being generated, and by 2015, this figure is projected to double (Gardner, 2012). As such, a large amount of waste generated is becoming a growing concern, due to the ecological impact

associated with improper waste management, which results in waste degradation and the release of noxious emissions (Karak *et al.*, 2012).

In spite of the municipal solid waste management challenges experienced by the developed and the developing world, first-world countries are leading in the management of municipal waste in that they have made municipal solid waste management a priority; by developing regulations and sustainable measures concerning the use of solid waste. First-world countries have put in place monitoring mechanisms that seeks to promote and support municipal solid waste in the developing agendas of cities (Nzeadible, 2009). Therefore, tremendous amounts of waste are handled in different ways in accordance with the physical characteristics of the waste generated. The main reason for this is the variation in the physical characteristics of the waste generated. In developed countries, for example, waste composition tends to be more recyclable materials (Chandrappa and Das, 2012). This is because people in developed countries tend to buy ready-made and packaged products. In contrast, in developing countries, there is a high dependence on subsistence farming, with limited post-harvest processing of food. Developing countries tend to buy more raw materials, depend on imported new and used goods, thereby increasing the percentage of organic waste (Metin *et al.*, 2013). In various countries of the world, therefore different waste management practices exist. Among the best practices, include proper composting, recycling, waste-to-energy technologies, and sanitary landfilling for the ultimate disposal of waste (Guerrero *et al.*, 2013).

However, cities without adequate waste management practices suffer continuously from the indiscriminate dumping of waste, and this is worsened by negative attitudes about safe and secure disposal (Johari *et al.*, 2012). There are several factors that perpetuate the attitudes towards participation in waste management, and these includes insufficient recycling and waste disposal facilities; lack of access to collecting, sorting and separating waste facilities; lack of government policies, incentives and enforcement measures; and the general mistrust of local government authorities by residents in most developed nations such as Canada, Ireland, the United States of America, Japan and Australia (O’Connell, 2011). Consequently, countries with improved waste management practices and infrastructure still face challenges, which include the recycling of products not recyclables, and insufficient waste sorting and recycling facilities (Singh *et al.*, 2014).

A study carried out by Medina (2011) revealed the amount of waste generated in developed countries is much more significant than in developing countries. This observation was also confirmed by UNDP (2011), which states the average municipal solid waste generation rate for developing countries being 0,79kg/capita/day, compared to 1,55kg/capita/day for developed countries. The reason behind these differences is individuals in developed countries tend to have a higher income, a higher standard of living, and GDP per capita (Simelane and Mohee, 2015 and Mohee and Bundhoo, 2015). As disposal income and living standards increase, consumption of goods and services also

escalate, and this results in an increase in the amount of waste generated (Chen, 2010 and Khjuria *et al.*, 2010). It can also be noted islands such as Fiji and Mauritius generate high amounts of municipal solid waste. The huge amounts of waste generated are associated with the tourism industry (Hoorweg and Bhada-Tata, 2012).

2.5 Contextualising solid waste management in sub-Saharan African cities

Many cities in sub-Saharan African countries experience high rates of population growth due to increased migration, urbanisation, industrialisation and modernisation (Simelane and Mohee, 2015). These processes have not only resulted in increased numbers of urban residents, but also increased generation of solid waste. These changes have unfortunately taken place in a context of rapid economic stagnation and deterioration, coupled with weak institutional and policy frameworks. The lack of financial resources, as observed by Liyala (2011) and Simatele and Etambakonga (2015) has not only made it difficult for local authorities to manage solid waste effectively, but has prevented people from solving urban-based problems and challenges.

Kubanza and Simatele (2015) are of the view available local authority resources have not been able to provide services to the growing urban population such as maintenance of roads, sewerage and water systems, infrastructure for waste management, and for running and supplying socio-economic amenities.

The tough economic conditions are having pronounced effects on all sub-sectors of the urban economy, particularly on the urban poor. Gumbo and Simelane (2015) observe in most African cities, provision for the regular collection and disposal of household refuse is highly inadequate, especially in poor neighbourhoods. The waste generated is hardly collected and is dumped in any available space within the city (Simatele and Simatele, 2014).

Despite the above observations, waste removal remains an unsolved problem in most suburbs of African cities (Cheru, 2012). Weak institutional frameworks, insufficient skilled labour, economic deteriorations has all resulted in poor waste removal (Danny and Etambokong, 2015; Simatele and Kubanza, 2015). The above factors, as argued by Danny and Etambokong (2015), have made municipal waste management a challenge and an environmental challenge in many African countries. As a result, waste collection is still overlooked in sub-Saharan African cities with municipal solid waste collection rates ranging from 20% to 80% (Muzenda *et al.*, 2011 and Mohee and Bundhoo, 2015).

Therefore, illegal open dumping and uncontrolled burning practices are employed to reduce the mountains of stinking refuse (Mohee and Bundhoo, 2015). Henry *et al.*, (2006) observe the main reasons for these poor practices include, among other things, lack of education, poverty, lack of appropriate infrastructure and regulations, and very little or no government willingness to implement a proper waste management strategy. Kubanza and Simatele (2015) and Simatele and Etambakonga

(2015) observe only 15 % of solid waste was collected in Lusaka, 17 % in Dar es Salaam and 13 % in Kinshasa due to poor infrastructure and a lack of refuse trucks. As a result of the above, low-income areas in sub-Saharan African cities not serviced by accessible roads have tended to sink in sewage and piles of stinking waste since these areas cannot have access to trucks (El-khattam *et al.*, 2011 and Cheru, 2012).

It must also be noted most cities in sub-Saharan African countries lack appropriate policies and legislation that would support investment in waste recycling. In instances where these policies and legislative instruments exist, their application has proven to be inconsistent (Sentime, 2014). In the eThekweni municipality in South Africa for example, the adopted technology for waste management is electricity-intensive and costly to run. This situation, as observed by Chimuka and Ogolo (2015), has created a scenario in which the local municipality is increasingly turning to donors for financial help to continue operating and running the technology. Thus, the lack of comprehensive policies well aligned, has resulted in the fragmentation of strategies which, if properly developed would contribute towards reducing associated costs and bring out effective and sustainable resource management and socio-economic service delivery (Sentime, 2014).

In view of the above observations, it can be argued the lack of comprehensive policies and technical ‘know-how’ have in part

contributed to failure in devising the appropriate strategies, approaches and technologies that would have resulted in effective waste management practices and contributed to sustainable municipal waste management development in sub-Saharan Africa (Mudhoo *et al.* 2015). Muniafu and Otiato (2010), observe a combination of factors has and continues to compromise the ability of local authorities to manage urban change and processes effectively.

Simatele and Etambakonga (2015) and Samson (2008), argue to understand and appreciate the current challenges faced by urban authorities, it is therefore, essential to examine the entire urban municipal solid waste management system in sub-Saharan cities. They argue the persistent implementation of colonial and out-dated urban development and planning policies by city authorities has limited the scope in which to imagine the future of African cities as well as the range in which the talents of all urban dwellers can be captured (Simatele and Etambakonga, 2015; Simatele and Simatele, 2015). Furthermore, poor urban governance, marred by corruption, bureaucratic harassment of the poor and a lack of checks and balances have not only ignored the actions of the poor, but has harmed the growth and everyday lives of the poor (Sentime, 2014; Binns *et al.*, 2012).

Simelane and Mohee (2015) and Simatele (2010) argue the development of effective municipal solid waste systems in the sub-Saharan African cities, will depend on looking for African urban management strategies and this will ultimately depend on the theoretical sharpness and practical

abilities of both state and local authorities to adapt formal institutions to new and changing urban realities (also Samson, 2008 and Sentime, 2014).

2.6 Refuse Waste Management in South Africa

Studies show a positive relationship between income and waste generation. High earning people tend to generate more waste as they buy and consume a variety of goods or products, which produce a lot of inorganic material like glass, metal, textiles, and plastics into the waste stream (Medina, 2010:8). Higher-incomes thus increase waste production, which impacts on the composition of waste. Similarly, an increase in population has a positive impact on waste generation and its management system. Literature has documented increases in population and income growth, put a strain on municipal waste management resources (Beall *et al.*, 2010). The management of waste involves the removal of refuse from the point of generation to the end of disposal. The responsibility lies mostly in the public sector at municipal levels, though in some developed nations, the private sector can be contracted to do refuse management.

The roles of local government are dated back to the historical evolution of local government. The concept of local government in South Africa dates back to the 17th and 18th centuries when the Dutch East India Company (DEIC) and the British Settlers first arrived in the Cape (Ngubane, 2012; Powell, 2012). It was noted the influence of the Dutch and English resulted in the growth of a hybrid local government system in South Africa. The period of the 18th century saw the introduction of the three level/tiers of government, namely local, provincial and national. These different levels

of government got integrated in the South African system to ensure inclusivity within society. As such, local government became and remains the closest sphere of government to the citizens and is therefore invaluable in the provision of goods and services, as well as the development of the local environment. The local government is mandated to identify the needs of its local communities to enhance the general welfare of the communities (Nel, 2008:79). As such local government is vested with prescribed, controlled governmental powers and sources of income to render specific local services and to develop control and to regulate the geographic, social and economic development of the defined local areas (Meyer, 1978:10). Section 152(1) (a) of the Constitution of the Republic of South Africa (108 of 1996) describes the roles of local government as follows: providing democratic and responsible government to the local communities; ensuring sustainable provision of services to local communities; enhancing socio-economic development; promoting safety and a healthy environment for the communities; and promoting public participation in local governance.

Furthermore, Section 73 of the Local Government Municipal Systems Act, 2000 (Act 32 of 2000), stipulates the role of the municipality as giving effect to providing the Constitution and prioritising the basic needs of the local community; promoting the development of the local community; and ensuring access to basic municipal services is granted to all community members. In this view, municipal services must therefore be: accessible and equitable; be provided in a conducive manner, while caution should be practised in using the available resources; financially and environmentally

sustainable; and reviewed on a regular basis, so as to upgrade, extend and improve when necessary.

As a government entity, municipalities are obliged to structure and manage administration, budgeting and planning to ensure they prioritise citizen's basic needs and services, while also encouraging the socio-economic development of their communities. Municipalities are expected to partake in development programs at both national and provincial level, and in turn administer these to local government (Municipal Systems Act, 32 of 2000). The role of local government is highlighted in its powers and functions, some of which tend to be decentralised from both national and provincial governments. Its developmental role (as indicated in the White Paper on Local Government), (RSA,1998), is fundamental to the purposes of municipalities. As such, municipalities are at the forefront of service delivery and therefore are expected to be innovative in their involvement of communities in municipal affairs (Boshoff and Mazibuko, 2008:14; Mkentane, 2013). Municipalities are therefore mandated by the Constitution to satisfactorily deliver services, which include refuse removal, sewage collection and disposal, water supply, health services, electricity and roads and storm water, to mention a few (Boshoff and Mazibuko, 2008:14). It is of utmost importance local government should portray public accountability, good governance, transparency, the promotion of an equal society and socio-economic rights (Platjies, 2011). Literature has, however, indicated the ineffectiveness of municipalities in meeting citizens' expectations in the areas of service delivery.

2.7 Waste Management Policy and Legal Framework in South Africa

Legislation on solid waste management is intended to protect the public and assure the citizens of their right to a safe and healthy environment. The management of solid waste is guided by the policy documents such as:

2.7.1 The South African Constitution (108 of 1996)

Section 24 of the Constitution's Bill of Rights elaborates on the environmental rights of the citizen. According to the Constitution, every citizen of the country is entitled to a safe and healthy environment; protection of the environment for its current benefits and for future generations; and the promotion of conservation for the prevention of ecological degradation (RSA1996).

2.7.2 National Environmental Management Act (NEMA) (107 of 1998)

The National Environmental Management Act advocates for sustainable development and the implementation of an environmental management plan through waste minimisation and environmental protection. Section 2 (4) (a) states:

“...waste is avoided, or where it cannot altogether be avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner [section 2(4)(a)(iv)]. That a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of

decisions and actions [section 2(4) (a) (vii)]...that negatively impact on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied [section 2(4) (a) (viii)]...the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment” [section 2(4) (RSA, 1998).

2.7.3 White Paper for Integrated Pollution and Waste Management for South Africa (Notice 227 of 2000)

The White Paper for Integrated Pollution and Waste Management for South Africa (Notice 227 of 2000) advocates for an all-inclusive and incorporated management system to prevent pollution and to minimise waste at the point of source. The advocacy aims to completely stop pollution of the environment by educating the public on environmental awareness and reinforcing the legislation on waste management (RSA, 2000).

2.7.4 The National Environmental Management Waste Act (59 of 2008)

The Section 28 of NEMWA (also referred to as the ‘Waste Act’), stipulates the need for everyone, including state organs, to prevent and minimise pollution. Among other things, the Waste Act provides for the protection of the environment by doing the following:

- Reducing the consumption of natural resources,
- Reducing and avoiding producing waste,
- Recovering, re-using and recycling of waste,
- Treating and considering disposing of waste as the last resort,
- Avoiding pollution and ecological dilapidation,
- Promotion of the effective delivery of waste services, and;
- Enhancing the integrated waste management planning and reporting (RSA, 2008).

The NEMWA is the principal legislation underpinning waste management in South Africa. It also stipulates that whoever causes pollution or environmental degradation is liable and must face the consequences (RSA, 2008). In support of this, the Polokwane Summit of September 2001 reinforced waste management through reducing, re-using and recycling, so as to protect the environment and to ensure sustainable development. The goal of the summit was to design a strategy for zero waste by 2022, resulted in the following declarations: the execution of a national waste management system; raising awareness on waste minimisation and recycling, waste information and assessment; calling on

private people to launch ground-breaking waste management activities and programs; and encouragement and contribution to safe and healthy waste recovery programs (RSA, 2001).

2.7.5 National Domestic Waste Collection Standards, GNR 21 (2011)

The standards are directly linked to service provision by municipalities, and are designed to ensure acceptable, affordable and sustainable services to citizens. The levels of services provided are premised on four categories, which include on-site disposal and kerbside collection. The standards encourage the separation of waste at source, while at the same time promoting recycling. It also highlights clear waste management guidelines should be provided. In the cases where kerbside content is not collected, but is recyclable, the municipality, the community and the recycling sector must work together for removal of the waste. It also noted communal collection areas should be accessible and clearly demarcated, with litter containers (National Domestic Waste Collection Standards, GNR 21, 2011).

2.7.6 The National Waste Management Strategy (2011)

According to the RSA (2011), the National Waste Management Strategy (2011) (NWMS) strives to fulfil the objectives of the Waste Act, as it seeks to improve waste management. The rapidly growing and urbanised population is continuously putting strain on the environment, which has a limited ability to absorb waste. The NWMS is thus meant to ensure the provisions of the Waste Act (59 of 2008), as indicated earlier, are implemented. The strategy advocates for the minimisation of waste, re-

using, recycling and recovering of waste, while also focusing on implementing the waste management hierarchy (as shown in Fig 2.1), with the crucial objective of avoiding sending waste to the landfill.

2.8 The goals of waste management

In 1976, the United States Congress enacted the Resource Conservation and Recovery Act (RCRA), which authorized the Environmental Protection Agency (EPA) to regulate waste management and disposal practices. The goals of waste management set by the RCRA included: the protection of human health and the environment from the hazards posed by waste disposal, the conservation of energy and natural resources through waste recycling and recovery, reducing or eliminating the amount of waste generated, and ensuring waste is managed in an environmentally-safe manner (RCRA,1976).

Other writers agree with these objectives of waste management. For example, Schubeller *et al.* (2016) have stated the goals of municipal solid waste management are protecting environmental health, protecting the quality of the environment, supporting the efficiency and productivity of the economy and the generation of employment and income for people. On her part, Cointreau (2011) argues, the overall goal of urban solid waste management is to collect, treat and dispose of solid waste generated by all urban population groups in an environmentally and socially satisfactory manner, using the most economical means available. Similarly, the South African Environmental Protection Agency has noted waste management is essential in the present day context for the following reasons: To protect

human health against waste-related hazards and risks; to prevent pollution of the environment and its natural resources like air, water and land; to produce energy which could be an alternative for the fast depleting fossil fuels and other conventional sources of energy; to make optimum use of the waste generated, for a better and sustainable future and (EPA, 2012). It can be concluded from the above the main objective of waste management is to protect public health against waste-related hazards and risks, and to maintain ecosystem services by preventing pollution of the natural environment and its resources such as land, water and air as well as the aesthetic quality of the environment.

2.9 The principles of waste management

The principles of waste management, as identified by Schubeller *et al.* (2016:19), are to minimize waste generation, maximize waste recycling and reuse, and ensure the safe and environmentally sound disposal of waste. This means waste management should be approached from the perspective of the entire cycle of material use, which includes production, distribution and consumption as well as waste collection and disposal. While immediate priority must be given to effective collection and disposal, waste reduction and recycling should be pursued as equally important longer-term objectives (Schubeller *et al.*, 2016).

Cointreau (2011) has also identified ten principles to guide a sustainable and integrated solid waste management programme. According to her scheme, such a programme should: Be supportive of good governance; provide economic service delivery; establish cost recovery mechanisms

for long-term financial sustainability; and conserve natural resources; embrace public participation; foster environmentally appropriate technologies and sites; seek appropriate levels of source segregation, recycling and resource recovery; conduct strategic facility planning and development; build institutional capacity and invite private sector involvement.

In line with Gilpin's (2016) notion of waste management, this means waste management involves much more than the practical organization of waste collection, transportation, treatment and disposal. While these are important aspects of waste management, several other issues are equally important' including good governance, public and private sector participation (Cointreau, 2011). The waste management situations in most developing countries show the goals and principles of waste management are far from being achieved (Schubeller *et al.*, 2016; Hardoy *et al.*, 2011; Pacione, 2015).

2.10 Concept, Origin and the meaning of Privatisation

Privatisation is understood to be the transfer of ownership, property or business from the government to the private sector. The government ceases to be the owner of the entity or business. It is a process where a publicly-traded company is taken over by a few people; this is also called privatization. The stock of the company is no longer traded on the stock market and the general public is barred from holding a stake in such a company. The company gives up the name limited and starts using private limited in its last name (Pacione, 2015). According to Schubeller *et al.*

(2016) privatization is considered to bring more efficiency and objectivity to the company; something a government company is not concerned about.

Privatization is a policy being implemented all over the world in recent decades. In regions such as Europe and Latin America, privatization has been characterized primarily by the sale to the private sector of government-owned firms and assets. In other regions where public ownership of firms was not as common, such as North America, privatization has mainly taken the form of contracting out services previously delivered by the government to the private sector. Most Economics and Public Policy scholars consider the privatizations in Chile (1970s- early 1980s) and the United Kingdom (1980s-early 1990s) as the first privatization policies in modern history. Others argue the first privatization operation was the denationalization of steel in the UK in 1953, and a few scholars identify the partial sales of state-owned enterprises in Germany under Adenauer's government (late 1950s-early 1960s) as the first large-scale privatization program. However, recently published works document and analyse a large-scale privatization policy in 1930s Germany, under Hitler's government. Indeed, between 1934 and 1937; the Nazi regime privatized almost all the firms taken over by the Weimar government in the early 1930s, during the Great Depression (Pacione, 2015).

The formal private sector is here understood to refer 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, 2011). In general, the defining characteristic of the formal private sector is its main objective is to generate a profit on investments.

2.11 Involvement of government and community on solid waste management

Informed by the Constitutional assignment of powers and functions to the different spheres of government, the Waste Act assigns clear responsibilities for waste management activities to each sphere. Some of these responsibilities require partnerships between government, communities and the private sector (Rubelli, 2011).

Local government must provide waste management services, which include waste removal, storage and disposal services, as per Schedule 5B of the Constitution. Municipalities must work with industry and other stakeholders to extend recycling at municipal level. Municipalities must provide additional bins for separation at-source and are responsible for diverting organic waste from landfill and composting it. Municipalities must facilitate local solutions, such as Material Recovery Facilities and buy-back centres, rather than provide the entire recycling infrastructure themselves (Smale, 2010).

According to Thornhill and Mello (2007) municipalities must designate a waste management officer from their administration to coordinate waste

management matters. They must also submit an IWMP plan to the MEC for approval. The IWMP must be integrated to the municipal integrated development plans (IDPs), and the municipal annual performance report must include information on the implementation of the IWMP. Municipalities must also register transporters of waste above certain thresholds on a list of waste transporters.

At their discretion, municipalities may set local waste service standards for waste separation, compacting, management and disposal of solid waste, amongst others. Local standards must be aligned with any provincial and national standards where these exist.

The Provincial government is the primary regulatory authority for waste activities, except for activities for which the Minister is the authority. It must promote and ensure the implementation of the NWMS and national norms and standards. Similar to local government, it must designate a provincial waste management officer responsible for coordinating waste management matters in the province. It must also prepare a Provincial IWMP and an annual performance report on its implementation, both of which must be submitted to the Minister for approval. Provinces have a number of discretionary powers, some of which may only be exercised in consultation with the Minister. These powers include setting provincial norms and standards; declaring a priority waste; listing of waste management activities; registering waste transporters; requesting the preparation of industry waste management plans; identifying

contaminated land and establishing a provincial waste information system. To provide a nationally harmonised regulatory environment for waste management, the provinces will only exercise these discretionary powers where clear and compelling reasons exist, after consultation with DEA (Furedy, 2011).

Rubelli (2011) said national government, and in particular DEA, is ultimately responsible for ensuring the Waste Act is implemented and the various provisions are harnessed in the most appropriate and effective way. The Waste Act specifies various mandatory and discretionary provisions the DEA must address.

Public participation and stakeholder engagement is viewed to achieve democratic developmental governance at district level. The aim is to solidify social cohesion, enhance developmental aspects of public participation; promote governance approach to public participation and ensure a two-tier system of public participation. Sedibeng DM identified challenges in implementing public participation process in Sedibeng such as inconsistent functioning of Ward Committees; late and inadequate feedback given to the community; lack of follow-up service delivery complaints; weak oversight and accountability on service delivery related complaints raised by the community in public meetings. To solve these challenges, turnaround strategy for local government emphasized amongst other things, partnerships between communities; civil societies and local government to be strengthened; municipality to meet basic

needs of the community and to build clean, effective, efficient, responsive and accountable local government. Sedibeng further recommended previously disadvantaged communities should have easy access to services and the municipality should have people oriented administrative structures and political office bearers (SDM IDP 2010/11: 43). The partnerships formed may be in the form of allowing certain areas to be serviced by the community to augment municipal services (Scott, 2009). Strategy to ensure public participation the SDM Integrated Development Plan (2010/2011:117) identified key deliverables to accomplish successful implementation of the strategy to ensure public participation. Stakeholders to be involved as key role players are ward committees, religious groups, youth groups, CBOs and NGOs.

2.12 Private Sector Involvement in Municipal Solid Waste Management

The delivery of public services has traditionally been carried out by the public sector. The increasing financial burden on the local governments and the inefficiency of the public sector in developing countries, necessitates the use of markets for public service delivery. However markets where there is perfect competition with willing buyers and sellers do not work for public services externalities and information asymmetry. Solid waste collection service as a public good has externalities if people are excluded from the service. Solid waste collection cannot be provided through the market without regulation. The private sector is involved in the solid waste collection due to market and government failures. There is also non-governmental organization failure, due to the over-reliance on

donor support to cover investment, operation, and maintenance costs. This means the private sector failure, underperformance and inability to deliver the expected service quality, could occur if the needed policies, legislation, incentives, and government support are not given to it.

The extension of the market mechanisms of the New Public Management (NPM) to private sector involvement in solid waste collection services is still an emerging issue, especially in developing countries. By contracting out solid waste services to the private sector and charging for services rendered by the private sector, the municipalities are again faced with difficulties. Public services delivery such as water supply, sanitation, and solid waste services have been failing in developing countries for a long time, despite the NPM and decentralization of local service delivery to local governments. The expected improvements in service delivery have often not been achieved (van Dijk, 2016). Decentralization alone was not enough to bring about improvements in service delivery, and therefore private sector involvement in public service delivery was introduced. The paradigm shift from public sector delivery of public services in developing countries to private sector provision began in the past two decades. Governments vigorously began to promote the private sector as a provider of services to improve service efficiency and effectiveness (Roth, 2017; Cointreau-Levine and Coad, 2000; Batley and Larbi, 2014), but private finance and expertise to bring about the improvement are still issues, especially in developing countries.

In developing countries, different forms of Private Sector Involvement (PSI) have been suggested for achieving higher efficiency and effectiveness, to overcome the government failures in public direct service delivery – too many workers, not enough supervisors, few incentives for better performance and limited finance (Cointreau-Levine, 2014; Cointreau-Levine and Coad, 2000; Post et al., 2013). Private Sector Involvement (PSI) in solid waste collection in developed countries emerged in the 1970s. Since then, there has been increasing private sector involvement in solid waste collection services in many parts of the world (Eggerth, 2015). By 1994, there were more than 10,000 private firms engaged in urban solid waste collection services in the United States, where more than 80 percent of solid waste was collected by private firms (Cointreau, 2014). There is now PSI in all the elements of integrated solid waste management from the collection, sanitary landfilling, recycling to resource recovery in developed countries.

Private Sector Involvement in all sectors in developing countries has been slow, especially in Sub-Saharan Africa countries. However, there is increasing private sector involvement (PSI) uptake in French-Speaking Africa (Li and Akintoye, 2013). By 1989, there was private sector involvement in solid waste collection in Latin American cities (Santiago, Buenos Aires, Sao Paulo, and Caracas) with populations of 3.6 to 12 million (Bar-tone, 2011). The companies in these cities operated under service contract arrangements with the municipalities. The involvement of the private sector in solid waste collection in most developing countries

started gaining momentum in the 1990s. The World Bank advocated Private Sector Involvement in the 1994 World Development Report. Since then, the development partners have supported the drive for PSI in solid waste collection and management through capacity building and loans for the provision of equipment. The number of private companies involved in solid waste collection keeps on increasing in developing countries, as in the case of South Africa, and there is a growing interest in the private sector in many developing countries. However, the presence of PSI in urban solid waste collection in developing countries has not been felt in terms of better service quality and total service coverage, and this may be due to several issues such as policy, capacity, regulation, legislation, and investment risk.

Private agencies engaged in waste management have higher operating efficiency because firstly, they are free from bureaucratic hurdles, and their equipment is kept in excellent condition. Good condition of vehicles and equipment ensures not only trouble-free operations, but also results in higher output and profitability. According to Boorsman (2014), the private sector is endowed with qualities such as political independence, economic rationality, efficiency, dynamism, and innovation – qualities, which make it measure up favourably to public sector enterprise. The motives of privatization have primarily been the private sector works more efficiently than the public sector; it is thus concluded economic benefits will arise from privatizing public sectors where there is no natural monopoly (Prasad, 1998).

Another critical aspect of the involvement of the private sector in Low and Middle-Income Countries (LMIC) is the debt issue. Most LMIC public budgets depend on external financial aid. Many international credit organizations impose the concept of privatization to lessen the demand for loans. The World Bank Group is the leading institution in the preparation and support of privatization programmes, providing advice and loans to cover costs associated with privatization, and providing investment loans to cover costs related to privatization as well as ones to help restructure private enterprises. Privatization is consequently assimilated into the corpus conditionality of the donor community (Grimshaw and Willmott, 2012). Taking into consideration that 90% of municipal investments in LMIC today come from external aid (World Bank, 2017), the issue of privatization is becoming inevitable for LMIC. In reality, the donor community imposes the principles of privatization. It is a, “*conditio sine qua non*” for the continuation of external aid flows. Simply put, efficient SWM and privatization are linked to LMIC.

2.13 Private Sector Delivery of Quality Solid Waste Service

The rationale for Private Sector Involvement (PSI) in solid waste collection is to firstly, improve efficiency (reduce cost) and effectiveness of service delivery (service quality) through competition. Secondly, where private sector providers compete for a zonal monopoly to render service over a period, and lastly, to ensure the environmental aspect of sustainable development is integrated into solid waste management. However, recent case studies of PSI in solid waste management in some developing

countries (Karanja, 2012; Mwangi, 2013), in South Africa (Obiri-Opareh, 2012; Awortwi, 2013), in Tanzania (Mbuligwe, 2014; Kassim, 2016) and India (Post et al., 2013) – showed there has been an increased coverage in some of the countries. However, the service quality, efficiency, and sustainability of private sector service delivery are still issues that require further studies to identify drivers for performance. The private sector still faces problems; there are challenges of inefficiency and low service quality due to some factors of the enabling environment, inter-organisational arrangements, and how companies are run; and this is what this study seeks to identify.

Studies on performance of service providers often conclude service delivery by the private sector is associated with gains in effectiveness and service efficiency more than by municipal departments (Cointreau-Levine, 2014; Cointreau-Levine and Coad, 2010; Post et al., 2013). Other authors argue the results of private sector performance over public sector delivery showed efficiency gains are mixed and the debate on private sector efficiency gains over the public sector is inconclusive (Donahue, 2009; Bel and Warner, 2008). The results from these studies showed their explanatory factors are unresolved, and therefore require further investigations into other approaches

Private sector inefficiency in developing countries may be due to several factors, and one of them is operational inefficiency due to weak capacity. Zurbrugg (2009) argues the operational inefficiency of solid waste collection services delivered in developing countries is due to weaknesses

in institutional arrangements (policies, legal, and regulations), the deficient capacity of the public and private sector institutions involved, and the use of inappropriate technologies. It follows from this the operational efficiency of the service agent, among other factors are necessary for private sector efficiency gains and improved performance. There has been increased involvement of the private sector in solid waste management in many cities in developing countries (Post et al., 2013; Cointreau-Levine and Coad, 2000). However, despite the increasing interest in public-private-community partnerships, there is evidence coverage and the needed improvements in environmental sanitation have not been achieved (Onibokun and Kumuyi, 2009; Oduro-Kwarteng et al., 2016). The solid waste collection coverage has not improved to the desired level in the developing countries, despite the paradigm shift from public delivery of solid waste services to private sector participation.

There is an argument the private sector does not, in some cases, guarantee higher effectiveness and efficiency gains or reduce cost. Some studies suggest the efficiency of the private sector depends on the capacity of local government institutions to regulate and monitor the performance of the private sector, and to recover costs (Obirih-Opareh and Post, 2012; Awortwi, 2013; Obirih-Opareh et al., 2014; Oduro-Kwarteng et al., 2016). Apart from regulation and performance monitoring by the public sector, which is external to the private sector organization, there are other internal factors which affect private sector performance. The effectiveness and

efficiency of service delivery by the private sector depends on several factors, which may be internal or external to a private sector organisation.

The lack of performance improvement of solid waste services in developing countries is daunting and one would wonder where things went wrong in the management and provision of the services. Although literature on technical, policy frameworks, implementation strategies, urban governance and institutional dimensions of waste management is large and growing; detailed analysis of internal and external factors to private sector organizations is needed to be able to apply measures that increase efficiency and effectiveness in solid waste service provision in developing countries. The theoretical framework for this study is based on theories of markets and regulation of public services. The market as a process involves market actors, exchange mechanisms (transactions), the object of ex-change (services), industry demand and supply and regulators. The market and how it is regulated determines service coverage, efficiency, and quality.

2.14 Advantages of Privatization

One of the most frequently cited advantages of the private sector over government is its management flexibility (Savas, 2010). Private sector management has greater ease in firing personnel for non-performance and in providing upward mobility for workers with excellent performance. Regarding LMIC, Private Sector Participation (PSP) advocates argue privatization results in more competition, better service, economic growth, reduction of the national debt and benefiting from more Foreign

Direct Investment (FDI) (Savas, 2010). Privatization means less pressure on municipal budgets, and therefore provides more flexibility. It is also perceived as a way of reducing overall public deficits by increasing short-run revenues. Cointreau-Levine also observes the main reasons for this enhancement are that private sector service providers are accountable to their customers and are obliged to react to customer dissatisfaction. Competition between the private and public sectors is effective in improving cost-effectiveness. If thresholds are specified in the contractual agreement, and the private sector operator is monitored effectively, good standards of operation can be achieved (Cointreau-Levine, 2010).

Cointreau-Levine also argues, the Private sector management has more flexibility to hire qualified staff, to pay staff according to performance, to terminate the employment of unsatisfactory workers, and to adjust working hours according to service demand. The private sector can optimize the size of the workforce and the ratio of professional to operational staff, and to concentrate its resources on the service for which they are intended, without personnel or equipment being requisitioned for other purposes (Cointreau-Levine, 2010). In her opinion, private sector companies are both less restricted by bureaucratic procedures and more able to concentrate resources where they are needed.

According to Cointreau-Levine (2010), some reasons for this increasing focus by municipalities on alternative arrangements include many requirements of the MSW rules have not been fulfilled by municipalities in the past – such as primary door-to-door collection or sanitary land

filling. Therefore, there are very limited skills within municipalities to handle these activities. Most municipalities lack the finance to expand operations into new geographic areas or into new activities. The increased need to focus on efficiency improvements to reduce cost and reallocate expenses within the waste management chain, to activities like treatment and disposal.

2.15 Limitations of Privatization

Kessides (2015), and others argue privatization is oversimplified, oversold, and ultimately somewhat disappointing. Kessides (2015) remarks that privatization has proved to be more challenging to implement effectively; it is also less magical in its accomplishments than what was believed or promised beforehand. Privatization, although useful, is quickly overworked. It is a controversial solution to the problem of providing public goods when both costs and benefits are hard to measure. Without sound public management, PSP does little to enhance public value (Kessides, 2015).

On balance, the privatization policy debate has largely amounted to little more than competing anecdotal evidence. Those favouring privatization tell their favourite stories, and those opposed peddle theirs. Hence, the question is not whether privatization and private sector development should occur. It is still, about how it can be done optimally; that is, how to reach social goals through enterprise growth, how to avoid market distortions by supporting enterprises, and how to regulate and enter into dialogue with the business sector.

The decision to privatize a public service should not be based on ideological considerations, but rather on economic merits. In Africa, as well as South Africa, the main reason why we privatize our solid waste management is for economic reasons. The governments of most Africa countries have a lot of pressure on their budgets and as such do not have the commitment to fund solid waste management effectively and as such, the management of solid waste by the municipalities has not yielded any fruits. So the only way out is to privatize, coupled with the advantages that go with private companies. One of the most fundamental determinants of the efficiency and effectiveness of any PSP arrangement is competition. That is the degree of competition that an arrangement permits will, to a significant extent, determine how efficiently that arrangement will supply a service.

2.16 Forms of Privatization in Municipal Solid Waste Management

Generally, there are four forms of privatization in MSWM, which are contracting out, franchising, leasing or concession, and open competition.

2.16.1 Contracting Out

According Cointreau-Levine (2010), contracting out is the process whereby the government awards a finite-term contract to a private firm for the delivery of solid waste collection services, street sweeping services, the collection of recyclables, transfer station operations, disposal site operations, or fleet maintenance. The contract award is made after a competitive procurement process. The private firm is paid for service delivery by the government under the terms of the contract. The service

involves low economies of scale, technological simplicity, and moderate investment costs (Dillinger, 2014). With contracting, it is feasible for local firms with modest financial resources to enter into the business of solid waste collection. The study of private sector participation in Latin America showed most of the firms were small-to-medium-sized, indicating there were virtually no barriers to entry (Bartone 2011).

In terms of cost, contracting out is less costly. The two major studies on costs in the United States showed contracting was ten percent to thirty percent less expensive compared with a public monopoly (Dillinger, 2014). These studies included the government's cost to monitor contractors; estimated to average roughly 25 percent of overall (Dillinger, 2014).

2.16.2 Open Competition

This occurs when the government freely allows qualified private firms to compete for refuse collection, recycling, or disposal services. In open competition, individual households and establishments make private arrangements with individual firms for refuse collection and or recycling. No firm holds a zonal monopoly, and any number of firms may compete within the same zone (Cointreau-Levine, 2010).

2.16.3 Franchise

Cointreau-Levine (2010) defines franchise as the situation whereby the government awards a finite-term zonal monopoly (franchise) to a private firm for the delivery of solid waste collection services. The franchise

award is made after a competitive qualification process. The private firm deposits a performance bond with the government and pays a license fee to cover the government's costs of monitoring. The private firm recovers its costs and profit through direct charges to the households and establishments served. The government provides control over the tariff charged to the consumer through: a) development of adequate competition and control of price collusion, or b) price regulation (Cointreau-Levine, 2010).

The franchise is applicable to solid waste systems because economies of services are attainable only when waste is collected along a contiguous route or within an exclusive zone (Dillinger, 2010). Private firms must individually bear the cost of billing and collecting user charges. The cost of billing is estimated to amount to 10 percent of the total cost to the consumer of service. It is one of the reasons why franchise does not usually result in the same low cost as contracting (Dillinger, 2010).

2.16.4 Concession/Leasing

Cointreau-Levine (2010) explains concession as the process whereby the government awards a concession to a private firm to set up a facility that utilizes the government-owned resource refuse. The concession may enable the private firm to recycle materials from refuse; to recover resources from refuse; or to transfer or dispose of refuse. The concession is in the form of a long-term contractual agreement whereby the private firm builds the facility. In some cases, the private firm may maintain the

ownership of the facility indefinitely to the government after a specified period of private ownership and operation (Cointreau-Levine, 2010).

Under the concession, the government allows the private sector to utilize one of its resources, in this case, solid waste, for profit-making purposes. Concessions typically involve the construction of major long-term facilities to sort, treat transfer, or dispose of solid waste. The government may pay a tipping fee or service charge to defray part of the costs of processing the solid waste. Still, the sale of the concession's product (such as compost) or service fees paid by non-government customers typically cover the remaining costs. The government provides a guarantee of flow control so amounts of waste received closely matches the facility's design capacity. Most concessions are operated on a take or pay basis, where tipping fees are paid even if the guaranteed daily quantity of waste is not provided (Li and Akintoye, 2003). Among the four forms of privatization, it usually is challenging to say this particular one is better than the others. What might work for a specific country, might not work for another country? In each of them, it depends on the nature of the agreement and the monitoring system to monitor the private companies.

2.17 Conclusion

This chapter dealt with the literature review on the privatisation of waste management. The chapter presented the understanding of waste management; classification of waste; global; regional and local context of waste management; the regulatory and legal framework on solid waste management in South Africa and goals of waste management. The chapter

discussed the principles of waste management; concept; origin; and meaning of privatisation; stakeholder involvement in waste management; private sector service delivery and its advantages and limitations. Finally, the chapter provided a summary. The next chapter presents the research methodology underpinning the study.

Several scholars have investigated waste management, for instance, researchers such as Kinnaman (2009), Ren and Hu (2014) and Godfrey and Oelofse (2017) conducted studies on waste management and financial resources. On the other hand, scholars such as Bullard (2005), Karak, Bhagat and Bhattacharyya (2012), Sentime (2013), Kubanza and Simatele (2015), Kubanza (2016), Dlamini, Simatele and Kubanza (2018), Dlamini and Simatele (2019), Banerjee and Sarkhel (2019) conducted studies on waste management, social and environmental injustices, and socio-economic development. Furthermore, scholars such as Sodhganda (2013), Simelane and Mohee (2015), Joshi and Ahmed (2016), Godfrey and Oelofse (2017), Schenck *et al.* (2018), Rasmeni and Madyire (2019) conducted studies on waste disposal and management, population growth, landfill capacity, waste on climate change. Hence, there is a lack of studies that have been conducted that investigate the effects of privatising the solid waste collection service especially in KwaDukuza Municipality, KwaZulu-Natal.

CHAPTER THREE

THEORETICAL FRAMEWORK

3.1. Introduction

New Public Management (NPM) is a new paradigm of public administration. NPM points to the failures and inadequacies of public sector performance over time and the problems lying squarely in the nature and processes of public sector activity and traditional public administration. This chapter deals with the concept of NPM by discussing the meaning of public management; public management reforms; its objectives; reasons for reforms; emergence of NPM; philosophies and elements of NPM; implementation of reforms; evaluation of public management reforms; emerging criticisms of NPM, and how the NPM informs this study. This chapter ends with a chapter summary.

3.2. The meaning of public management

The study of public management has received wide attention in the last two decades; both in developed and developing countries. The subject has recently been known by various names, including public management, new public management, managerialism, market-based management, and entrepreneur government, to note just a few. Kettle (2010:2) argues the reform movement has spread around the world and was sweeping in scope.

Not only has the subject become popular, it has also become more controversial than any other subject within the broader field of public

admiration (Hughes, 2010). The subject is popular because it has suggested ideas and principles for making government more effective and efficient. Many countries around the world are embarking upon making governments work better and cost less, and follow the broader framework of the new public management model. In such cases, reform initiatives that originated in Western countries crossed international boundaries (Aucoin, 2010; Boston *et al.*, 2016; Hughes, 2008; Kettl, 2010). Nevertheless, NPM is controversial because many scholars contest the ideas and principles forwarded by the proponents of New Public Management (Afford, 2007; Considine, 2007; Hood, 2005; Maor, 2009; Minogue, 2010; Painter, 2007). Lynn (2008) argues it will fade away soon.

Public management sought a revolutionary change, which is different from the traditional language of public administration that emphasised rules, procedures, and stability (Hughes, 2008:7). The new public management language placed more emphasis on change, decentralisation, responsiveness to customers, performance, transparency, accountability, debureaucratisation, de-politicisation, and others. Words such as public administration and administrator have started being replaced by terms such as public management and manager, respectively is the process of change (Hughes, 2008). Boston *et al* (1996:2) argues the rhetoric might have varied around the world, most of the recent efforts at governmental reinvention, restructuring, and renewal have shared similar goals - to improve the effectiveness and efficiency of the public sector, enhance the

responsive of public agencies to their clients and customers, reduce public expenditure, and improve managerial accountability. The choice of policy instruments has also been remarkably surreal: commercialisation, corporatisation, and privatization; the devolution of management responsibilities; a shift from inputs controls to output and outcome measures; tighter performance specification; and more extensive contracting out (Hughes, 2008:5).

Boston *et al* (2006:7) further notes the term public management refers to both the location and the nature of management activity. In other words, public management refers to the capacity of the government to make and implement policies, the effectiveness of the government's programmes, and the effectiveness of the government institutions that provide services to the people. The United Nations Development Programme (UNDP, 2005:9) regards the term public management as synonymous with governance, which means the exercise of political power to manage a nation's affairs. Public management is not only the management of the public sector, but covers broader issues of governance, including the effectiveness of the policy-making machinery; the provision of information; the relations between levels of governments and the consequent implications for the interaction between the government and the rest of the community (OECD, 1998:5). Pollitt and Bouckaert (2010:10) argue public management might be used in explaining the activity of public servants and politicians, structures and processes of executive government, and it may mean the systematic study of either

activities or structures and processes. Taking all these into account, it can be argued public management covers what the government does for the private sector as well as for civil society. It covers the executive, legislative, and judicial branches of government.

3.2.1 Meaning of public management reform

Reform means changing established bureaucratic structures, behaviours, and practices. Caiden (2011:41) noted administrative reform means the artificial inducement of administrative transformation against resistance. Pollitt and Bouckaert (2010:3) argue public management reform consists of deliberate changes to the structures and processes of public sector organisations to get them to run better. The keyword for reform is change; a change for improvement compared with before. Public management reforms mean questioning everything the government does. It is asking about why governments do this work; whether there is a need to do this work; can somebody else do this work better; can it be done differently and can it be done more efficiently and less expensively. The underlying philosophy of reforms is to improve the level and quality of services to the people of the country in a cost-effective manner. It is to do more with less and to enhance the effectiveness of the government machinery. It is bringing about change to achieve better results.

Armstrong (2007:12) notes reform could be viewed at three different levels: (a) instrument settings, adaptation and fine-tuning of accepted practices, such as introducing or improving a performance measurement

process; (b) instruments themselves, adoption of reform instruments or techniques, such as providing services electronically; and (c) comprehensive or fundamental reform, the hierarchy of goals behind policy and ideas which comprise the framework and guide action, such as devolution of employment services to another jurisdiction or autonomous agency. Brunsson and Olsen (2003:2-7) suggest reform could be rationalization, power shift, and democratization. Reform could be at macro and micro levels. Macro reform may include major restructuring, whereas micro reform includes improvement and fine-tuning of existing systems and procedures. It could be concluded public management reform covers all aspects of government functions, including its roles towards the private sector and civil society.

3.3. Objectives of public management

The objective of the public management reform program is to make the government more effective and efficient. The Organisation for Economic Co-operation and Development (OECD) survey revealed the goals of reform in most countries are to increase economy and effectiveness (OECD, 1999). It may include improving organizational performance; improving job satisfaction; clarifying personal and organizational responsibility; improving accountability and transparency; making government more responsive to the needs of the public and improving the quality of services from the government. The goals could be to raise the quality of the public services delivered to the people and enhance the

capacity of the government machinery to carry out the core functions of the government in a cost-effective manner. The objective of reform may differ from one country to another. For some countries, it could be reducing the role of state, whereas for others, it could be to improve financial management. It all depends upon each country's needs, priorities, opportunities and capabilities. It is imperative to have a clear vision of objectives, plans, and programs as the success of a reform program is normally measured against established objectives.

3.4. Reasons for public management reforms

A survey in nine OECD countries (OECD, 1999) revealed the mounting pressures for reforms were: over extended and unaffordable government; the mounting fiscal pressures on governments; the new shift in the role of government; questions raised by citizens and stakeholders about the optimum size of government; the global influences and the international environment; the increasing levels of citizen's expectation; international and internal pressures and the research and learning from research institutes, academicians and researchers. There is a need for the governments to keep up with a changing society.

Trust in government is declining. Barnes and Gill (2010:23) noted that in 1964, 75% of the American Public believed they could trust their government to do the right thing most of the time by 1995; only 15% did so. New Zealand studies reflect a similar trend. In 1985, 8.5 % of New

Zealanders had a great deal of confidence in their government. By the year 1998 this had fallen to 2.5 %.

Furthermore, the new pressures generated by social, political, economic changes in the international markets demanded a new role of government (OECD, 2010). Global factors, such as privatisation; development of information technology; urbanization; a rapidly growing culture of self-interest; individualism; socio-economic inequalities; deteriorating environmental situations and most importantly the threats and opportunities brought by globalization, warrant governments to make changes in their traditional administration. As to the opportunities and challenges brought by globalization, the Secretary-General of United Nations (Annan, 2010:10) notes we know how profoundly things have changed. World exports have increased tenfold since 1950, even after adjusting for inflation, consistently growing faster than world GDP. Foreign investment has risen more rapidly; sales by multinational firms exceed world exports by a growing margin, and transactions among corporate affiliates are a rapidly expanding segment of world trade. This is the world of globalization - a new context for, and new connectivity among, economic actors and activities throughout the world. Globalisation has been made possible by the progressive dismantling of barriers to trade and capital mobility, together with fundamental technological advances and steadily declining costs of transportation, communication, and computing. Its integrative logic seems inexorable, and its momentum is irresistible. The benefits of globalisation are plain to

see: faster economic growth, higher living standards, accelerated innovation, and diffusion of technology and management skills, new economic opportunities for individuals and countries alike. Few people, groups, or governments oppose globalisation. They protest its disparities. First, the benefits and opportunities of globalization remain highly concentrated among a relatively small number of countries and are spread unevenly within them (Annan, 2010:10).

Secondly, in recent decades an imbalance has emerged between successful efforts to craft strong and well-enforced rules facilitating the expansion of global markets, while support for equally valid social objectives be they labour standards, the involvement, human rights or poverty reduction, has lagged behind. Globalisation has come to mean greater vulnerability to the unknown and unpredictable forces that can bring on economic instability and social dislocation, sometimes at lightning speed. There is mounting anxiety the integrity of cultures and the sovereignty of states may be at stake. Even in powerful countries, people wonder who is in charge, worry for their jobs, and fear their voices are drowned out in globalization's sweep. If we are to capture the promises of globalisation, while managing its adverse effects, we must learn to govern better, and we must learn how better to govern together (Annan, 2010:9).

According to OECD (1998:9), the most critical drivers of the public management reforms over the last 10-15 years have been a set of concerns that:

- The level of taxation, the budget deficit, and public debt was too high, and could become even worse if no action were taken;
- Government programs too often failed to achieve - objectives were not cost-effective so they did not represent value for money;
- The administrative machinery was not sufficiently responsive to the needs of clients, including ministers themselves;
- Government itself was part of the problem, having become too big and too intrusive;
- Fiscal constraints imposed by the state of the economy;
- Pressures on all sectors of the economy to perform at their best so as to support rising living standards; Increasing and changing demands from citizens and government for new and improved services and high quality policy decisions;
- Demands for high ethical standards and accountability; and
- Increasing contestability of public services and opportunities from advances in technology (also see O'Neill and Hughes, 2008:6).

3.5. Public management: theoretical perspectives

A brief analysis of the traditional model of public administration is essential in this study because many developing countries still follow it. It also builds an understanding of how public administration has changed

throughout time. Therefore, the following section describes, in brief, the traditional model of public administration and identifies some problems associated with it.

Though the history of public administration can be traced back to the rise of civilization, or ever since there was some form of government, the modern conception of a bureaucratic state and the theories of public administration is a phenomenon of mid-nineteenth century. Among the popular proponents of public administration theories are the Northcote-Trevelyan Report (1854), Woodrow Wilson (1887), Frederick Taylor (1911), Luther Gulick and Lyndal Urwick (1937), and Elton Mayo (1930). The theory of bureaucracy by Max Weber (1947) is among the important theories in practice until now (Hughes, 2008:4).

The early systems of administration were 'personal' based on loyalty to a person (Hughes, 2008:2). Corruption and misuse of office for personal gain were among the main features of early administration. In the United States, there existed the spoils system of administration, in which the winning party determined the administration.

3.5.1 Beginning of, and the problems with, the traditional theories of public administration

Hughes (2008:5) notes perhaps the beginning of the traditional model of public administration could be attached to the coming of the Northcote-

Trevelyan Report submitted in 1854 in Britain. Significant recommendations of the Report were as follows:

- The public service should be carried out by the admission into its lower rank of a carefully selected body of young men through the establishment of a proper system of examination before appointment;
- The abolition of patronage and the substitution of recruitment by open competitive examinations under the supervision of a central examining board;
- The reorganization of office staff of central departments in broad classes to deal with intellectual and mechanical work respectively; and
- Filling higher posts by promotion from inside based on merit.

The recommendations of this report were adopted slowly, and these ideas influenced the United States as well (Hughes, 2008:2). Wilson (1887:16) argued there should be a strict separation of politics and administration, and separation of policy from administrative tasks. The Progressives pressed for a more interventionist state, a neutral public service, with competent members in the public service, and with sound financial management systems in place. This theory was generated to control the evils of the *spoils* system of administration that prevailed in the United States at that time.

3.5.2 Problems with the traditional theories of public administration

Although the traditional model of public administration was a great improvement over the personal and patronage system of administration dominant before that, this type of government administration was inadequate to deal with the new demands of society. Hughes (2008:22) describes the traditional model of public administration as an administration under the formal control of the political leadership, based on a strictly hierarchical model of bureaucracy, staffed by permanent, neutral and anonymous officials, motivated only by public interest, serving any governing party equally, and not contributing to policy, but merely administering those policies decided by politicians. So this type of administration was found to be inadequate to cope with the expectations of modern society for the reasons discussed below. A clear-cut distinction between political leadership and bureaucrats was not realistic and possible (Behn, 2008:2; Hughes, 2008). The modern public service needs to perform the role of policy-making as well as implementing the policies designed for cooperation with political leadership.

Traditional public administration ignored this phenomenon and supported the view a public servant's role is to implement given policies. This obstructed the innovative behaviours of the employees. The Weberian model of bureaucracy is obsolete as it breeds timeservers not innovators. It encourages administrators to be risk-averse, rather than risk-taking and to waste scarce resources instead of using them efficiently (Hughes, 2008). Behn (2008) argued the specialization of tasks created a problem

of coordination in the organizations. Hierarchical rules and regulations and its formal behaviours produced bureaucratic pathologies, such as unresponsiveness, delay, red tape, and inflexibility. It is now increasingly realised bureaucracy is not the only means for providing direct services. Governments can forge a partnership with other providers, such as the private sector and the civil society for improving services.

Historically, governments have been the sole authority for managing social, economic, and political affairs of their respective countries. In the late eighteenth century, Adam Smith's model of Laissez Faire government focused on small governments and emphasized retaining core functions, such as education and defence. The World Development Report (2007) observed the dramatic events of World War I, the Russian Revolution of 1917, the Great Depression of the 1930s and World War II resulted in expanding the role of the state in industrial countries, and most developing countries in Asia, the Middle East, and Africa came out of the colonial period with a strong belief in state-dominated economic development. By the 1960s states had become involved in virtually every aspect of the economy, administering prices and increasingly regulating labour, foreign exchange, and financial markets (World Bank, 1997).

Many socialist countries pursued a path of state-dominated industrialization for their economic development in the belief the surplus generated by the industrial sector would trickle down to other sectors of the economy. The concept of a Welfare State was dominant in the 1960s and '70s (World Bank, 2007).

The failure of the trickle-down theory, increased costs of the Welfare State regime; the rapid proliferation of new technologies; globalization; and the failure of centrally planned economies, etc., could be argued to be essential points that led to a shift in the role of the government in the early 1980s. Governments started realizing their failure to provide the services expected by people and began to adopt market-friendly strategies for strengthening the economy. It was a return to free markets - a belief private ownership and competition would promote efficiency and national development. State dominated development failed (World Bank, 1997) because many countries were not able to meet the demands of a changing globalized world economy.

The OECD (1995) argues the traditional model has become inadequate because: unchanged governance structures and classic responses of more of the same are inadequate for maximizing economic performance and ensuring social cohesion. Highly centralized, rule-bound and inflexible organizations emphasize process rather than results, impeding good performance. Extensive and unwieldy government regulations restrict the flexibility needed in an increasingly competitive international marketplace; large government debts and fiscal imbalances of the welfare regime warrant governments to be more cost-effective in the allocation and uses of resources; and the demographic changes, economic and social developments enabled citizens to ask for a greater say in what governments do and how they do it.

Hughes (2008) noted three important problems with traditional public administration: the model of political control was inadequate and illogical; unlike Weber, the theory of bureaucracy was no longer universally seen as providing the technical efficiency required; and there was criticism from the Right as part of the argument advanced against bureaucracy as an idea, it being something that took away freedom and was inefficient compared to the market. Basically, it was an attack on the politics, the structure, functions and methods used by government to provide services.

Behn (2008:23) commenting on the failure of the old system noted the traditional method for organizing the executive branch of government is too cumbersome, too bureaucratic, too inefficient, too unresponsive, and too unproductive. It does not give the results we want from the government. And today, citizens expect the government to produce results. Citizens are no longer tolerant of inefficiency or ineffectiveness. Thus, we need a new way of doing business, a new paradigm for the management of government. To deal with these problems, a reinvention is needed - a shift from rigid, hierarchical, bureaucratic form of public administration to a flexible and market-based public management; a transformation from a centralized government to a decentralized government that encourages private sector participation in national development; a reappraisal of what governments have done so far and re-

examination of their institutions, functions, programs, policies and regulations (Atreya, 2001).

With this, it could be concluded the traditional public administration in an era of the welfare state, was justified because it allowed greater intervention in all sectors of the national economy to correct market failure, and to provide the necessary services to people. The last two decades witnessed its failure due to its unresponsive nature, overextension of its scope and the methods employed were defective in serving the people. The pendulum had swung from the old administration to new public management, which is also a shift from state-dominated government to a market-led government.

3.6. Emergence of new public management

As the traditional model of public administration came under question, politicians, bureaucrats, researchers, and academicians searched for that which would make government more effective and efficient. The period of 1960s and 70s was noted as the age of eclecticism; a period characterized by many studies by academicians as a time of strengthening the government through policy initiatives (Gray and Jenkms, 2005). In this process, two major streams of thought emerged. One was led by economists, characterized as new institutional economies; and, another by the managerialists known as managerialism (Aucoui, 2010; Hood, 2001). Economists argued for the introduction of economic rationale in the operations of government. In contrast, the managerialists argued for introducing the professional management techniques of the private sector

into the public sector. Many reform doctrines emerged based on these theories. Economic rationalists argued the government was the economic problem restricting economic growth and freedom (Hughes, 2008:10) and advocated the doctrine, less intervention by government and the use of markets would improve economic efficiency.

They argued the traditional bureaucratic model did not provide an equivalent structure of incentives and rewards to those of the market and advocated individuals should have a maximum choice for both individual freedom and efficiency reasons (Gray and Jenkins, 2005:3).

The managerialists advocated private sector management principles and practices would solve many of the bureaucratic problems of the public sector. It was believed commercialisation would lead to a change in culture, values and skills of managers, and this would improve the performance of the agencies. Probably, managerialists philosophies gained strength from the work of Peters and Waterman's (2002) publication.

In Search of Excellence which showed the best-managed American companies had organic structures, humanistic management styles and a supportive cultural environment. In this process of finding the government model that works best, scholars have come up with a new model, known as NPM (Hood, 1991), which has been regarded as a set of doctrines for public management reforms in many countries.

Many authors (Borins, 2005; Dunleavy, 2007; Flynn, 2005; Gore, 2003; Gruening, 2008; Hood, 1991; OECD, 2005; Osborne and Gaebler, 2002; Poliitt, 2005) have given different arguments as to the make-up of NPM. For example Hood (1991) has forwarded seven interrelated points for the make-up of NPM. These included: hands-on professional management; explicit standards and measure of performance; greater emphasis on output controls; a shift to disaggregation; a shift to greater competition; a stress on private sector styles of management practice; and discipline and parsimony in resource use. Hood proposed NPM as an administrative philosophy for governments, that would be results-oriented and productive. Borins (2005) argued NPM is a normative reconceptualization of public administration, consisting of several inter-related components: providing high quality services citizens value; increasing the autonomy of public managers, particularly from central agency controls; measuring and rewarding organization and individuals on the basis of whether they meet performance targets; making available the human and technological resources managers need to perform well; and, appreciation of the virtues of competition, maintaining an open-minded attitude about which public purposes should be performed by the private sector, rather than the public sector. According to Dunleavy (1997:17) new public management is the domesticated, de-politicalised version of new right or market liberal policy analysis, made somewhat technical, consensual and generic. NPM has become a generic label for a

group of policy and administrative solutions emphasising competition, disaggregation and incentivisation.

The OECD (1995) claimed a new paradigm has emerged in the field of public management and identified the following characteristics as a shift to new public management:

- A closer focus on results in terms of efficiency, effectiveness and quality of service;
- The replacement of highly centralised, hierarchical organizational structures by decentralised management environments where decisions on resource allocation and service delivery are made closer to the point of delivery, and which provide scope of feedback from clients and other interest groups;
- The flexibility to explore alternatives to choose public provisions and regulations that might yield more cost effective policy outcomes;
- A greater focus on efficiency in the services provided by the public sector, involving the establishment of productivity targets and the creation of competitive environments within and among public sector organizations; and
- Strengthening of strategic capacities at the centre to guide the evolution of the state and allow it to respond to external changes and diverse interests automatically, are flexible, and at least cost.

In the same way, Pollitt (1995) noted the following make-up of NPM.

- Cost cutting, capping budgets and seeking greater transparency in resource allocation.
- Disaggregating traditional bureaucratic organizations into separate agencies often related to the parent by contract or quasi contract.
- Decentralization of the management authority within public agencies.
- Separating the function of providing public services from purchasing team.
- Introducing market and quasi-market type mechanisms.
- Requiring staff to work to performance targets, indicators and output objectives.
- Shifting the basis of public employment from permanency and standard national pay and conditions towards team contracts, management related pay (PRP) and local determination to pay and conditions.
- Increasing emphasis on service quality, standard and customer responsiveness.

Osborne and Gaebler (2002) proposed ten strong principles for making government entrepreneurial. They include the following:

- Steering rather than rowing;
- Empowering rather than serving;
- Injecting competition into service delivery;
- Transforming rule-driven organizations;

- Funding outcomes, not inputs;
- Meeting the needs of customers, not the bureaucracy;
- Earning rather than spending;
- Prevention rather than cure;
- From hierarchy to participation and team work; and
- Leveraging change through the markets.

The above discussions showed there is neither complete agreement as to what NPM is nor the make-up of NPM, though there are many common points. However, a common agenda for all authors has been to make government effective and responsive to citizens' demands. Basically, a new paradigm that emphasized mission; disaggregation of large bureaucratic organizations into smaller compact organizations; focus on outputs rather than inputs; value for taxpayers' money; authority devolved at the point of service delivery; flexibility, customer responsiveness, introduction of competition in the public service, and strengthened accountability and transparency; was the instrument used by many countries for reinventing governments (Atreya, 2001).

3.7 Principles of new public management

New Public Management is the most dominant paradigm in the discipline of public administration (Arora, 2003). It conjures up an image enmeshed with a minimal government; debureaucratisation; decentralization; market orientation of public service; contracting out; privatization; performance management; etc. These features signify a marked contrast

with the traditional model of administration, which embodies a dominant role of the government in the provision of services, hierarchical structure of organization, centralization and so forth. Grounded in rational choice and public choice and containing elements of total quality management (TQM), the New Public Management (NPM) seeks to offer more efficient mechanisms for delivering goods and services and for raising governmental performance levels (Kelly 2008).

Table 3.1: Doctrine of New Public Management

| Sl. No. | Doctrine | Meaning | Justification |
|----------------|---|--|--|
| 1 | Hands-on professional management of public organization. | Visible managers at the top of the organization, free to manage by use of discretionary power. | Accountability requires clear assignment of responsibility, not diffusion of power. |
| 2 | Explicit standards and measures of performance. | Goals and targets defined and measurable as indicators of success. | Accountability means clearly stated aims; efficiency requires a 'hard look' at objectives. |
| 3 | Greater emphasis on output controls. | Resource allocation and rewards are linked to performance. | Need to stress results rather than procedures. |

| | | | |
|----------|--|--|---|
| 4 | Shift to disaggregation of units in the public sector. | Disaggregate public sector into corporatized units of activity, organised by products, with devolved budgets. Units dealing at arm's length with each other. | Make units manageable; split provision and production, use contracts or franchises inside as well as outside the public sector. |
| 5 | Shift to greater competition in the public sector. | Move to term contracts and public tendering procedures; introduction of market disciplines in public sector. | Rivalry via competition as the key to lower costs and better standards. |
| 6 | Stress on private-sector styles of management practice. | Move away from traditional public service ethics to more flexible pay, hiring, rules, etc. | Need to apply 'proven' private sector management tools in the public sector. |
| 7 | Stress on greater discipline and economy in public sector resource use. | Cutting direct costs, raising labour discipline, limiting compliance costs to business. | Need to check resource demands of the public sector, and do more with less. |

Source: (Hood, 1994:9)

Falconer (2007) provides a summary of these central characteristics. People, responsible for public service delivery, should be proactive managers rather than reactive administrators. The modern public manager

should have discretion in decision making within his or her particular area of responsibility. Unlike the traditional public administrator, who operated in accordance with established rules and regulations, and who implemented the policies of government, with little or no discretion and with no direct responsibility. The public manager is a much more active individual, with decision making authority over, and responsibility for, the public service he or she delivers. This is called, 'Hands-On Professional Management'. Under the new public management, management lies at the core of public sector activity, and professional managers are viewed as the key to improved public sector performance. Public management embodies the important belief, public sector organizations should increasingly be subjected to rigorous measures of performance. This means these organizations must pay closer attention to what it is they are doing (i.e. objectives). Subjecting public managers to performance evaluation, introduces disciplinary mechanisms that compel public sector bodies to focus on their specific responsibilities and carry out those tasks efficiently and effectively (Falconer, 2007).

As the public management school of thought argues, performance measurement also enables public sector bodies to be held directly accountable for their activities. Under the regime of performance measurement, public sector organisations should be committed to an ethos of continuous improvement in levels and standards of service delivery. Allied to performance measurement is the need for a focus on results rather than processes. For too long, public sector organizations

failed to concern themselves with their outputs. Instead, the focus was on inputs, given political debates on public sector matters usually revolve around the question of resources. Under the new public management, the focus is shifted to results (Falconer, 2007). The important question for the proactive public manager is what he or she actually achieves with the resources available. As such, the most important concern of the public manager is results. The new public management calls for decentralization in public sector organization.

Given public management embodies a strong criticism of the bureaucratic form of organization, it is not surprising it advocates a disaggregation of bureaucratic units in order to form a more efficient, accountable public service. This is called disaggregation of public sector units. It is more efficient because smaller units of activity are better able to establish objectives and work toward achieving them more quickly and more directly. It is more accountable because the new public management replaces the faceless bureaucrat with visible, responsible managers who are directly responsible to the public. The two central arguments within the public management approach are - the market, not the government, is the best allocator of resources and individuals are the best judges of their welfare. As such, market disciplines are advocated for the public sector, in line with the belief threat of competition and rivalry between providers, fosters efficiency in service provision and choice for customers. It brings 'greater competition in public service provision'. This has important implications for both public service providers and users. On the provider

side, public service delivery agencies, through market forces, will supposedly be compelled to improve the quality of service. On the customer side, a member of the public is supposedly transformed into a consumer with rights in the new public sector marketplace (Falconer, 2007).

The recommendation of private sector styles of management is the efficiency of public service provision is enhanced where a public sector agency conducts its affairs under business principles. An important theme within public management is the public sector should seek, as far as possible, to behave in a more business-like manner. Therefore, public service agencies should adopt reward structures for their employees, much like those in the private sector, encompassing such mechanisms as performance-related pay and more flexible working practices. Underpinning these different recommendations is the important requirement public service agencies must pay much greater attention to how they use the financial and human resources at their disposal. The emphasis in the new public management is very much on cutting the cost of public service provision, while, at the same time, increasing its quality. Ten principles were identified that represent an operational definition of NPM (Falconer, 2007).

First, government has a responsibility to steer the delivery of public services in addressing public issues. As such, it reflects a notion the government does not necessarily have to be responsible for the delivery of public service. Second, the government ought to be community-owned

and the role of government is to empower citizens and communities to exercise self-governance. This notion stands in contrast to the notion citizens are merely recipients of public services and do not have to be actively engaged in the process of deciding what those services look like. Indeed, a citizen simply needs to know they were receiving the same service as delivered to other citizens or recipients such that no preferential treatment is being shown (Miller and Dunn, 2006). Third, competition is seen as inherently good such that, through competition, the best ideas and most efficient delivery of services can emerge. Competition can drive the newly empowered citizens and recipients to create new and better ways of providing public goods to themselves and fellow citizens.

Sometimes competition means various public and private firms were competing to procure rights to deliver a public service. It also means departments within a government, have to compete for limited public resources, communities have to compete with each other to offer fresh and original ideas, and employees have to compete with each other in the delivery of the services for which they are responsible (Falconer, 2007).

Fourth, far too often, the results of governmental operations were the enforcement of rules that may or may not have been relevant to the particular cases. It should be the purposes for which agencies are created that drive the activities of that agency; not the rules that have been constructed around that agency. Fifth, Public agencies should be judged on the results they generate. Organizational processes like the budget cycle should be directed assessing the cost and benefits of the outputs of

the units and not on the allocation of inputs between those units. Sixth, the notion of the customer is predicated on the value of choice. Customers ought to have a right to choose between competing and differentiated approaches taken to deliver any particular public good. Seventh, bureaucracies earn their allocation of resources by demonstrating the value in terms of the public good generated by the investment elected officials would make in a particular agency. This perspective has the units in an agency competing with each other by selling to the elected officials a greater public good than offered by other agencies (Falconer, 2007).

The eighth principle relates to the desirability of orienting public agencies toward preventing rather than curing public problems. Although this particular principle has been seen as a critique of bureaucracy is general, it is not the intention to argue anticipatory organizations are inherently related to NPM. The ninth principle is about maximizing the participation of the broadest possible number of people and institutions in the decision-making process. In this sense, it is anti-hierarchy and anti-bureaucratic. It is also anti-uniformity in the way a particular public service is delivered is a function of the local community of participants who decide how that service will be delivered. The tenth principle relates to leveraging market forces and utilizing market based strategies in the delivery of public goods. It presumes there is no one way to deliver public good and a wide variety of delivery mechanisms are possible (Falconer, 2007).

Although the NPM model has several incarnations such as managerialism (Pollitt, 1990), new public management (Hood, 1991), market-based

public administration, and entrepreneurial government (Osborne and Gaebler, 2003), the basic premises are the same. It represents a major shift from the conventional public administration in various ways. For example, Lan and Rosenbloom observe, the chief aim of a market based public administration approach is public administration can achieve its historic quest for both efficiency and responsiveness to the public through competitive market-like practices. Osborne and Gaebler (2003) even call for a cultural shift away from the bureaucratic government towards an entrepreneurial government as it is both competitive and customer-driven. NPM is to a large extent based on the assumption public sector organizations need to learn from private sector and private companies. The private sector is considered to be more efficient, and by imitating private sector - public administration may become more efficient in its allocation and use of resources. This is considered possible in so far as the difference between private and public sphere is not seen as an obstacle. The two key concepts of NPM are market and management. Market means competition and is seen as the highway to heaven. Competition compels private companies to continuously search for better products and services, because if they do not improve, other companies will take over and they will not survive. The public sector is not exposed to competition. According to the NPM doctrines, public sector organizations are in a monopoly situation and hence do not have a similar drive for continuous improvements. Since there is no competitive pressure for cost-effectiveness and productivity improvements, the allocation of resources

in public administration will be sub-optimal. To remedy this situation, NPM proposes several ways to expose public sector organizations to be more competitive. The other key concept management refers to a separate and distinct activity that brings together plans, people, and technology to achieve desired results (Pollitt, 1998).

The assumption is management is a professional way of dealing with problems of organization and the optimal allocation of resources. Management is different from politics, which is the realm of conflict and disorder, and politicians are amateurs in administration in so far as they do not know very much about how to manage organizations. Management is based on scientific knowledge about how to deal with such problems most rationally and efficiently. Public administration, according to the NPM ideology, needs more professional management. Politicians have a legitimate role as responsible for the overall goals of public sector organizations, but the implementation should be more exclusively left to professional managers. The NPM is inspired by the private sector and the above list may be compared to a similar list developed by Peters and Waterman, which they claimed was developed from a study of the ten most successful United States companies at that time (IBM, Hewlett-Packard, McDonalds etc.). The list from Peters and Waterman includes: (a) bias for action; (b) close to the customer; (c) autonomy and entrepreneurship; (d) productivity through people; (e) handsome, value driven; (e) stick to the knitting; (f) simple form, lean staff; and finally (g) simultaneous loose-tight properties. Their study has been criticized for

methodological weaknesses: not making explicit how data was collected and how they relate to findings, also they did not compare with poorly performing companies, and they identify these as generic principles across various contexts. After some time, it was also pointed out, many of the successful companies failed and were no longer in the top-ten list. NPM also stands out as a rhetorical mechanism. Managerial speeches and documents tend to construct their arguments on the basis of four founding assumptions, which are themselves rarely subject to critical reflections or empirical tests: (a) existing public sector organizations are outmoded and in need of reform; (b) a body of proven management ideas and techniques is available to guide the reform process; (c) it is self-evident efficiency will flow from the application of such techniques and greater efficiency and flexibility are desirable in themselves; and (d) it is progressive to define the citizens who interact with public sector organizations as consumers and customers. All the definitions cited above imply NPM relies heavily on the theory of the marketplace and on a business-like culture in public organizations. Other definitions were also put forward in the 1990s (Pollitt and Christopher, 2008).

Hays and Kearney found most of the studies on NPM had mentioned five core principles of NPM and thus concluded they represent the most important philosophy of the discipline: (1) downsizing - reducing the size and scope of government; (2) managerialism - using business protocols in government; (3) decentralization - moving decision making closer to the service recipients; (4) debureaucratization - restructuring government to

emphasize results rather than processes; and (5) privatization - directing the allocation of governmental goods and services to outside firms (Hughes, 2003).

All these principles are mutually related, relying heavily on the theory of the private sector and business philosophy, but aimed at minimizing the size and scope of governmental activities. Integrated with ideas rooted in political economy, they have now been applied to public sector institutions. Hence, governments that are far from being simple businesses have been encouraged to manage and run themselves like businesses. An integrative definition for NPM that relies on the previous works would argue NPM represents an approach in public administration that employs knowledge and experiences acquired in business management and other disciplines to improve efficiency, effectiveness, and general performance of public services in modern bureaucracies (Vigoda 2003:6).

3.8 Criticisms of new public management

The serious criticism of the public management reforms, particularly those of the new public management, is they are against the precepts of democracy.

It is argued by some, democracy requires bureaucracy. Democracy requires the rule of law, the legally sanctioned regulation of markets, the preservation of equity, and competent bureaucracies, subject to control by statute and by judicial institutions. Weber viewed a system of bureaucratic

rule in the modern state as inescapable. Bureaucracy and democracy go together and to move away from bureaucracy is to wish to set up a new system of government altogether. This is a big claim. It may be claimed there is an endemic reduction in political accountability, hence in democratic accountability, as public managers are themselves accountable for results, thereby allowing politicians to avoid accountability (Hughes, 2003).

The public sector reforms may reduce political accountability; if the manager is to be more accountable, then the politician is axiomatically to be less accountable, and public accountability may be reduced through contracting or other ways in which a function is delivered by the private sector, so there is no longer government involvement. It could be argued outcomes are not evenly distributed, and equity considerations are of little concern in the reform process. It would need to be proved responsiveness, equity, representation and the rule of law, are less valued than under traditional bureaucracy. It could be argued all that is being set forward is being more focused on how money is spent and making sure desired results are achieved. Furthermore, there would be no reason programmes aimed at being more equitable, would not be able to be managed by the NPM principles. In other words, perhaps it is the programme rather than its administration, that advances equitable outcomes. There is a reduction in scale and scope by the government. While it could be claimed cuts in government follow from democratic demands for lower taxation; the larger size and scope of government may result from political demands as

expressed by democratic means. It could be regarded as undemocratic if the scope of politics - by one standard definition, the art of the possible - is reduced to narrower allowable areas of discourse (Hughes, 2003).

The public management reforms have generally aimed at reducing the size of government, but there is no real evidence this was in response to democratic pressure. There was some minor political impact resulting from the so-called tax revolts in the 1970s and 1980s, but it was not substantial and quite short-lived. It is the case governments grew in response to what the citizenry wanted. To the extent public management reformers reduce government, regardless of public opinion, they could be seen to be behaving in an undemocratic way. For example, there was no popular movement against public enterprise. There was, rather, the theoretical argument derived from neoclassical economics, and from this the widespread privatization of public enterprises followed, in many places against public opinion. In addition, the governmental scope can be reduced by limiting the allowable range of activity for politics and political action to only those things about which current theory allows arguments to be made. It would be unlikely now a government would declare it wished to greatly increase public spending, increase public employment, and nationalize some important industries. This means the range of allowable discussions does not permit all possibilities to be canvassed; politics is reduced, therefore democracy has been reduced (Hughes, 2003).

It could be argued several of the major changes would, if carried out fully, improve the functioning of the democracy. OECD argues, the public management reforms are not responsible for any problem of democratic deficit, rather they are part of the solution. There is to be more transparency, enhancement of the role of elected politicians, while the focus on service quality and consultation increases the opportunities for public involvement. It is also possible public management reforms were driven, in some countries, by a desire for greater democracy (Hughes, 2003).

3.9 Application of new public management approach to the study

The New Public Management approach was used to explore the influence of privatising the solid waste collection service in the KwaDukuza Local Municipality. As discussed above, the New Public Management approach is made up of the following elements: government organization; control of public organizations; control of output measures; management practices; and discipline in resource use. These elements were be used to inform research questions, research objectives, data collection instruments, and others.

3.10 Conclusion

The chapter presented a literature review on NPM by defining public management and stating public management reforms. The chapter also discusses the objectives of public management reform, reasons for public management reforms, and the emergence of NPM. The chapter also discusses principles of NPM, elements of NPM, evaluation of public

management reform programmes, and the emerging criticisms of NPM. The theoretical framework for this study is informed by the theories presented in the study.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

Research methodology is a systematic and critical way of conducting research. This chapter presents the research methodology used to conduct this study. The chapter starts by presenting the research design, methodology, study site, target population, sampling method, and sample for the study. The chapter also presents measures for validity and reliability, data collection instruments, data analysis techniques, and a summary for the chapter.

4.2 Research design

Research design is a plan on how research is going to be conducted (Creswell, 2014:44). It is also called a blueprint for the research that includes research variables, research methodology, sampling methods, data collection instruments, analysis of data, and other research processes or procedures that make up the research action plan (Yin, 2012:8). In several cases, the type of research design employed in a study depends on the research objectives underpinning the study to answer the research questions (Silverman, 2013). Explanatory research has been used for this study. Explanatory research was chosen because a number of researchers have conducted this research and, therefore, cannot be regarded as exploratory or as descriptive research as it does not describe the phenomenon. This research design does not allow a researcher to

generalise the finding of the research problem studied (Muller, 2016). A case study research design allows a researcher to dig deeper into a research problem and bring out the nuances of the research problem (O’Leary, 2014). The design makes it easy to understand the research problem as it is studied from different perspectives. This allows a study to collect rich and comprehensive data that is analysed to have a better understanding of a research problem. Also, the design will enable the researcher to engender multifaceted data by employing various data-gathering research instruments to have a comprehensive understanding of the effects of privatising the solid waste collection service in the KwaDukuza Municipality.

4.3 Research approach

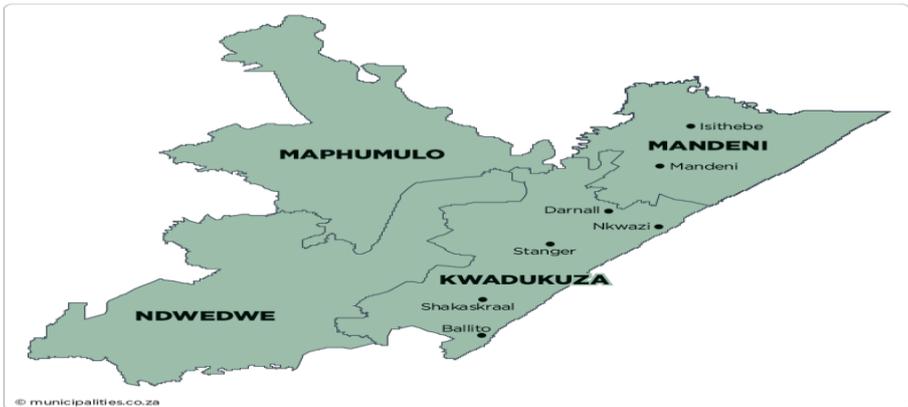
This study employed a quantitative research methodology to explore the effects of privatising the solid waste collection service in the KwaDukuza Municipality. The quantitative research methodology is mainly used when a researcher is interested in quantifying or measuring a research problem by collecting numerical data that can easily be transformed into statistics to help understand a research problem. Creswell (2013:23) explained quantitative methodology is effective in quantifying behaviours, feeling, views, opinions, attitudes, and any defined constructs. In other words, quantitative research methodology uses measurable data to uncover patterns and put together research facts (Saldana, 2013:30). This study used a quantitative research methodology to measure the effects of privatising the solid waste collection service in

the KwaDukuza Municipality. The quantitative research methodology enabled the researcher to quantify respondents' attitudes, views, and behaviours towards the effects of privatising the solid waste collection service in the KwaDukuza Municipality. the method also made it possible for the researcher to conduct a structured study and generate results that can be generalised to the larger population (Babbie, 2010:3).

4.4 Study site

A study is defined as a place where an investigation is conducted in or from. The study was conducted at KwaDukuza Municipality. This study site is depicted in the map below.

Figure 4.1: KwaDukuza Municipality



Source: Statistics South Africa (2017:12)

Simons (2009:34) defines a study site is a place where the research carries out his or her study. It is a physical place where data is collected. The study was conducted at the KwaDukuza Local Municipality in the

province of KwaZulu-Natal. KwaDukuza Local Municipality is a local municipality at ILembe District Municipality. There are four municipalities at ILembe District Municipality, including the KwaDukuza Local Municipality, Maphumulo Local Municipality, and Ndwedwe Local Municipality. This study site was chosen for convenience purposes.

4.5 Target population

Maxwell (2012) defines a target population as a specific population a researcher is interested in conducting the study. Pascle (2011) explains a target population is a given population from which a sample is selected to provide data needed for the study. The primary data was obtained from ward committee members and waste company employees through questionnaires. The primary data was received from 80 participants (70 ward committee members and ten from waste collection company employees). The Ward Committee has 80 members and the waste company has fifteen employees. Hence, the target population was ninety-five participants. It is often not practical to study the entire population; therefore, it becomes important to make general findings based on a study of the affected population.

4.6 Sampling strategies and size

Sampling is defined as a process of selecting a small portion of people or units to represent the entire population (Michell and Jolley, 2010). Since this study was conducted using quantitative research methodology, the probability sampling method was used to select employees. Probability

sampling entails the choice of respondents being dependent on the principle of random selection, where all members of a given group have an equal chance of being selected as participants in the study (Johnson and Christensen, 2012). To select respondents for this study. According to the Municipal Structures Act of 2003, the ward committees must have ten members per ward. Hence, from the population of 80 ward committees, only 70 were sampled to participate in this study. Sekaran (2016), indicate the size for 80 population is 70. All the questionnaires distributed to the ward committee members were returned back completed. On the other side, the waste collection company has fifteen employees, and only ten participated in the study. According to Sekaran (2016), the sample size for fifteen is fourteen. The questionnaires were distributed to fourteen employees, but only ten were returned back. Therefore, not all members from the eight wards and waste company employees were studied.

4.7 Data collection methods

Questionnaires were used to collect data. A questionnaire is a data collection research instrument that has a series of questions and other prompts to gather information from respondents (Denzin and Lincoln, 2011:10). Questionnaires were used because they were familiar to employees to be studied and are fairly easy to analyse. Questionnaires are easy to administer and allow researchers to study a large population affordably. Questionnaires were divided into several sections exploring the effects of privatising the solid waste collection service in the KwaDukuza Municipality. For this research, a simple random sampling

was used. In this technique, all possible subsets of a population were given equal chances of being nominated when selecting a sample. This system was preferred for this study, because the possibility of classification error was removed, and a representative of elements was fair and equal.

There were eighty-four (84) questionnaires distributed, seventy of them were handed over by means of door to door to the ward committee members, and fourteen (14) questionnaires were personally distributed by the researcher to the waste collection company; only ten were received back.

4.8 Data analysis

Data analysis is defined as the organisation and interpretation of data gathered in a study (Creswell, 2009). This being a quantitative study, SPSS version 25 was used to quickly and easily analyse data using descriptive and inferential statistics (Miles, 2013). Thus, using descriptive statistics data collected provided descriptions of the population mainly through numerical calculations or tables or graphs. Using inferential statistics, the research made inferences and predictions about ward committee members and waste company at the KwaDukuza Municipality based on a sample of data collected.

4.9 Ethical considerations

The University of KwaZulu-Natal Ethics Committee provided ethical clearance and KwaDukuza Municipality provided the gatekeeper's letter. The researcher obtained consent from the respondents after explaining to them in detail what the study is all about. Also, confidentiality (the duty

of the researcher to keep the information private), privacy (by reminding respondents their right to keep some information to themselves) and anonymity (right not to be identified) of the respondents will be upheld in order to avoid compromising respondents' rights.

4.10 Conclusion

This chapter deals with the systematic plan employed in this study. The chapter started by presenting the research design, methodology, study site, target population, sampling method, and sample for the study. The chapter then presented measures for validity and reliability, data collection instruments, data analysis techniques, and summary for the chapter. The next chapter deals with the data presentation, analysis and discussion.

CHAPTER FIVE

DATA PRESENTATION, ANALYSIS AND DISCUSSION

5.1 Introduction

This chapter presents data, analysis and discussion. This chapter is divided into four sections; the first section presents the research process followed in this study. The second section deals with the research objectives the study wanted to achieve. The third section presents data under five themes; citizen's willingness to pay for solid waste collection; what is done to ensure a better waste collection management system in the area; and household's level of satisfaction regarding the privatization of waste management, and the fourth deals with the summary to the chapter.

5.2 Research objectives

- To understand the citizen's willingness to pay for solid waste collection.
- To ascertain what can be done to ensure a better waste collection management system in the area.
- To determine the household's level of satisfaction regarding the privatization of waste management.
- To determine the level of household's satisfaction with the privatised service of waste collection in the KwaDukuza municipality

5.3 Research process followed

Ethical clearance for this was obtained from the University of KwaZulu-Natal Ethics Committee, while the gatekeeper's letter from the KwaDukuza Municipality. The consent came from respondents. Confidentiality, privacy, and anonymity were all upheld. The questionnaire was used to collect data. The questionnaire had 21 items. The questionnaire measured various themes including the understanding of citizens' willingness to pay for solid waste collection, what can be done to ensure a better waste collection management system in the area, and the household's level of satisfaction regarding the privatization of waste management. Total of 90 questionnaires were distributed, and the study achieved 89% response rate.

5.4 Reliability statistics

In statistics, Cronbach's referred to the name used to measure internal consistency, it shows how closely related a set of items are as a group. A reliability coefficient of 0.70 or higher is considered as acceptable. The table below reflects the Cronbach's alpha score for all the items that constituted the questionnaire. The data collected from the responses was analysed with SPSS version 24.0. The results are presented using the descriptive statistics in the form of graphs, cross tabulations and other figures. Inferential techniques include the use of correlations and chi square test values; which are interpreted using the p-values.

Table 5.1: The Cronbach's alpha score

| | | | |
|----------------------|----------------|------------------|------------------------|
| Competency Construct | Items included | Cronbach's alpha | Name of single measure |
| Willingness | W1-B11 | .875 | WIL |
| Management system | M12 – C15 | .704 | MSM |
| Satisfaction | S16 – D21 | .708 | SAT |

The reliability scores for all, but one section exceeds the recommended Cronbach's alpha. This indicates a degree of acceptable, consistent scoring for these sections of the research.

5.5 Biographical data

This section summarises the biographical characteristics of the respondents.

5.5.1 Gender (Ward and Waste Company)

Table 5.5.1: Gender

| Gender (Ward) | | | Gender (Waste Company) | | |
|---------------|-----------|---------|------------------------|-----------|---------|
| | Frequency | Percent | | Frequency | Percent |
| Male | 39 | 55.7 | Male | 6 | 60 |
| Female | 31 | 44.3 | Female | 4 | 40 |
| Total | 70 | 100 | Total | 10 | 100 |

The findings show the ratio of males to females from the Ward is approximately 3:2 (55.7%: 44.3%). The findings suggest there is an adequate representation between males and females in the study.

The findings show the ratio of males to females from the Waste company is approximately 3:2 (60%: 40%). The findings suggest there is an adequate representation between males and females in the study.

5.5.2 Race (Ward and Waste company)

The findings on racial composition show the majority (72.9%) of the respondents were Africans, followed by Indian respondents (12.9%) as shown in the table 5.5.2 below representing the Ward. The findings are in agreement with the provincial demographics (Statistics South Africa, 2018).

The findings on racial composition show the majority (90%) of the respondents were Africans followed by Indian respondents (10%), as shown in the table 5.5.2 below representing the waste company

Table 5.5.2: Race

| Race (Ward) | | | Race (Waste company) | | |
|-------------|-----------|---------|----------------------|-----------|---------|
| | Frequency | Percent | | Frequency | Percent |
| Indian | 9 | 12.9 | Indian | 1 | 10 |
| African | 51 | 72.9 | African | 9 | 90 |
| White | 5 | 7.1 | Total | 10 | 100 |
| Coloured | 4 | 5.7 | | | |
| Total | 69 | 98.6 | | | |

The results from the Ward show the frequencies per race were not evenly spread out. That is, the study collected more responses from males than females. The findings below present the positions respondents hold.

The results from the waste company indicate the majority of responses were from Africans followed by Indians.

5.5.3 Position (Ward and Waste company)

In the Ward, there were more member respondents (58.6%) followed by others (21.4%) and chairmen (10.0%).

In the waste company, there were more employees respondents (70%) followed by directors (20%) and supervisors (10.0%).

Table 5.5.3: Position

| Position (Ward) | | | Position (Waste company) | | |
|-----------------|-----------|---------|--------------------------|-----------|---------|
| | Frequency | Percent | | Frequency | Percent |
| Chairman | 7 | 10 | Director | 2 | 20 |
| Vice Chairman | 1 | 1.4 | Supervisor | 1 | 10 |
| Secretary | 3 | 4.3 | Employee | 7 | 70 |
| Member | 41 | 58.6 | Total | 10 | 100 |
| other | 15 | 21.4 | | | |
| Total | 67 | 95.7 | | | |

The findings on the Ward show there is an inadequate representation of vice chairpersons and secretaries in the study.

The findings on the Waste company show there is an inadequate representation of supervisors in the study.

5.5.4 Experience

The study found respondents with experience of 1-5 years (54.3%) were the majority, followed by those with experience of 11-15 years (18.6%) from the Ward.

The study found that respondents with experience of 10-19 years (70%) were the majority followed by those with experience of 20-29 years (20%) from the waste company.

Table 5.5.4: Experience

| Experience (Ward) | | | Experience (Waste company) | | |
|--------------------|-----------|---------|----------------------------|-----------|---------|
| | Frequency | Percent | | Frequency | Percent |
| Less than a year | 8 | 11.4 | 4-9 years | 1 | 10 |
| 1-5 years | 38 | 54.3 | 10-19 years | 7 | 70 |
| 6-10 years | 5 | 7.1 | 20- 29 years | 2 | 20 |
| 11-15 years | 13 | 18.6 | Total | 10 | 100 |
| More than 21 years | 4 | 5.7 | | | |
| Total | 68 | 97.1 | | | |

The findings from the Ward indicate respondents were a mixture of experienced and less experienced wards. This finding is useful as it implies responses were generated from a mix of experience.

The findings from the Waste company indicate respondents had considerable experience. This finding is useful as it shows responses from employees with experience. This enabled the study to generate rich data.

5.5.5 Education (Ward and Waste company)

The findings from the Ward show 52.9% of the respondents had high school while 28.6% had tertiary education.

The findings from the waste company show 50% of the respondents had high school, while 10% had tertiary education.

Table 5.5.5: Education

| Education (Ward) | | | Education (Waste company) | | |
|-------------------|-----------|---------|---------------------------|-----------|---------|
| Uneducated | Frequency | Percent | | Frequency | Percent |
| Uneducated | 2 | 2.9 | Uneducated | 1 | 10 |
| Primary schooling | 10 | 14.3 | Primary schooling | 1 | 10 |
| High School | 36 | 51.4 | High school | 5 | 50 |
| Tertiary | 20 | 28.6 | Undergrad/ Diploma | 1 | 10 |
| Total | 68 | 97.1 | Honours | 1 | 10 |
| | | | Masters | 1 | 10 |
| | | | Total | 10 | 100 |

The findings from the Ward show there were few respondents who were uneducated. This implies respondents in this study were knowledgeable.

The findings from the Waste company indicate there were many respondents who had high school education, which was good for the study as it shows respondents in this study were knowledgeable.

5.6 Inferential Statistics

Exploration of the data shows the Likert scale data for Ward is not normally distributed, while for the Waste Company it is mostly normally distributed. However, the numbers for Waste are small (10 at most). For this reason, the study applied non-parametric tests throughout. For all these Likert scale questions, the study first supplied the response frequencies and then applied a Wilcoxon signed ranks test to test against a neutral score of three. This revealed whether there is significant agreement or disagreement to the statements. Average scores are piloted for easy interpretation.

5.6.1 H1: CITIZEN'S WILLINGNESS TO PAY FOR THE COLLECTION OF SOLID WASTE IN KWADUKUZA MUNICIPALITY

Table 5.12: Willingness to pay for the collection of solid waste - Ward

Test Statistics^{b,c}

| | | | | | |
|------------------------|--|---|--|--|--|
| | three - Q1.1 I am of the view the cost of solid waste collection is affordable | three - Q1.2 I feel that consumers would be able to pay more for better service collection. | three - Q1.3 In my opinion, the billing system is not accurate | three - Q1.4 I am of the view there are too many free riders in the system | three - Q1.5 In my view paying for extra waste collection is too costly. |
| Z | -1.169 ^a | -.190 ^a | -.973 ^a | -3.556 ^a | -2.881 ^a |
| Asymp. Sig. (2-tailed) | .242 | .849 | .331 | .000 | .004 |

a. Based on negative ranks.

b. Group = Ward

c. Wilcoxon Signed Ranks Test

The study found there is significant agreement among respondents there are too many free riders in the system, $Z=-3.556$, $p<.0005$. The negative mean ranking is 7.00 and positive mean ranking is 4.00 as shown in table one in the appendix. The findings therefore reveal there are a lot of citizens benefiting from refuse collection without expending effort or paying for the waste collection service. The findings therefore indicate there is a problem, because citizens utilise the collection of solid waste without contributing their fair share. The finding is supported by the New

Public Management theory that states the free rider problem is a burden on shared resources created by people who are not paying their fair share or are not paying anything at all. Dada and Mbohwa (2016) argue the free rider problem can occur in any community. Therefore, there is a need to make free riders contribute to solid waste collection. This view is reinforced by the New Public Management theory that posits accountability requires clear assignment of responsibility between stakeholders including local people.

There is significant agreement paying for extra waste collection is too costly, $Z=-2.881$, $p<.0004$. The negative mean is 7.00 and positive mean is 4.00 as shown in table 2 in the appendix. The finding indicates citizens feel paying for extra waste collection is commanding a high price they cannot afford. The finding means citizens cannot pay extra for the collection of solid waste. Tozlu, Özahi, and Abuşoğlu (2016) found the same problem and argue there is need for unit pricing where citizens can pay for the collection of solid waste as-they-throw. This is supported by the ninth principle of New Public Management theory that posits maximizing the participation of the broadest possible number of people carrying out local service is one sure way of ensuring service delivery. The New Public Management theory also states the public should be encouraged to participate in service delivery decision-making process.

Table 5.13: Willingness to pay for the collection of solid waste- Waste Company

Test Statistics^{c,d}

| | | | | | |
|------------------------|--|---|--|--|--|
| | three - Q1.1 I am of the view the cost of solid waste collection is affordable | three - Q1.2 I feel that consumers would be able to pay more for better service collection. | three - Q1.3 In my opinion, the billing system is not accurate | three - Q1.4 I am of the view there are too many free riders in the system | three - Q1.5 In my view paying for extra waste collection is too costly. |
| Z | -.798 ^a | -1.124 ^b | -.430 ^b | -.183 ^a | -.183 ^a |
| Asymp. Sig. (2-tailed) | .425 | .261 | .667 | .855 | .855 |

a. Based on negative ranks.

b. Based on positive ranks.

c. Group = Waste company

d. Wilcoxon Signed Ranks Test

Five statements were used to study citizens' willingness to pay for the collection of solid waste in the KwaDukuza municipality from the company's perspective. The study found no significant results, so there is neither significance agreement nor disagreement to any of the statements above. This may be attributed to the sample being too small to get anything meaningful.

5.6.2 H2: THE EFFECT OF PRIVATISING OF SOLID WASTE COLLECTION ON POOR HOUSEHOLDS.

Table 5.14: Effect of privatisation- Ward

Test Statistics^{c,d}

| | three - Q2.1 In my opinion, there is equal access in the collection of solid waste collection. | three - Q2.2 In my opinion poor people have to pay for waste collection | three - Q2.3 Road access deprived fair collection in poor communities | three - Q2.4 Waste collector employs local people | three - Q2.5 In my view poor people do not use dumping facilities because they are expensive |
|-----------------------------|---|--|--|--|---|
| Z | -1.147 ^a | -5.496 ^a | -4.297 ^b | -1.424 ^b | -2.675 ^b |
| Asymp. Sig. (2-tailed) | .252 | .000 | .000 | .154 | .007 |
| a. Based on positive ranks. | | | | | |
| b. Based on negative ranks | | | | | |
| c. Ground Ward | | | | | |
| d. Wilcon Signal Ranks Test | | | | | |

The study found significant disagreement because wards believe poor people must pay for waste collection, $Z=-5.496$, $p<.0000$. The negative mean ranking is 33.38 and the positive mean ranking is 21.70 as presented

in table 3 in the appendix. The finding indicates citizens see no need to participate in waste collection using the issue of poverty as justification. This may mean citizens do not understand the values and principles for authentic and comprehensive citizen participation in service delivery. The finding goes against the New Management theory, public participation in development and service delivery is a non-negotiable condition for good governance and sustainable development. The New Management theory also explains citizens should have clear areas of responsibility. Without such a development within communities, all efforts to provide effective service delivery would be difficult, if not impossible (Tan, Ho, Hashim, Lee, Taib and Ho, 2015).

Findings show significant agreement road access deprived fair waste collection in poor communities, $Z=-4.297$, $p<.0.000$. The negative mean is 40.05 and positive mean is 30.48 as presented in table 3 in the appendix. The findings show road conditions affect waste collection. This may mean some roads are inaccessible to trucks that collect waste. The finding is supported by Simatele and Etambakonga (2015) who found bad roads with blisters or potholes affect the collection of waste. Without good roads it is difficult to pick up and deliver waste (Simatele, Dlamini and Kubanza, 2017).

The study found significant agreement people do not use dumping facilities because they are expensive $Z=-2.675$, $p<.0007$. The negative mean is 36.28 and the positive mean is 32.02. The finding may mean citizens find the process of dumping waste expensive as one has to move

waste to the dumping site, which may be far away from the community. In agreement, Tan, Ho, Hashim, Lee, Taib and Ho (2015) said residents have difficulties in taking waste to the dumping site such that they have to use wheelie bins, that some do not have, to dump their waste.

5.6.2.2 Findings from the Waste Company

Table 5.15: Effect of privatisation- Waste Company

Test Statistics^{c,d}

| | three - Q2.1 In my opinion, there is equal access in the collection of solid waste collection. | three - Q2.2 In my opinion poor people have to pay for waste collection | three - Q2.3 Road access deprived fair collection in poor communities | three - Q2.4 Waste collector employs local people | three - Q2.5 In my view poor people do not use dumping facilities because they are expensive |
|-----------------------------|---|--|--|--|---|
| Z | -.052 ^a | -2.707 ^b | -1.567 ^a | -1.008 ^a | -.548 ^a |
| Asymp. Sig. (2-tailed) | .958 | .007 | .117 | .313 | .584 |
| a. Based on positive ranks. | | | | | |
| b. Based on negative ranks | | | | | |
| c. Ground Ward | | | | | |
| d. Wilcon Signal Ranks Test | | | | | |

Findings show significant disagreement in that people do not use dumping facilities because they are expensive $Z=-2.707$, $p<.0007$. The negative mean is 6.00 and positive mean is 4.50 as shown in table 4 in the appendix.

The study shows the company is of the view citizens do not use dumping sites because the process of using dumping facilities is costly. The finding resonates well with Bralton, Seekings and Armah-Attoh (2019:1) who found citizens were hesitant to interact with service delivery stakeholders to generate decision and implement them jointly through dialogue, debate and analysis. In the same context, the New Public Management theory posits there is need to encourage citizens, no matter how poor or disadvantaged, to engage in deliberative process by which interested or affected citizens, civil society organisations, and government actors are involved in policy-making before a decision is taken. In agreement, Scarlat, Motola, Dallemand, Monforti-Ferrario and Mofor (2015) found citizens tend to see themselves as poor, therefore it's not worth it to collaborate and jointly undertake responsibilities at any stages of the decision-making process.

5.6.3 H3: STRATEGIES FOR THE IMPROVEMENT OF SOLID WASTE COLLECTION ON POOR HOUSEHOLDS.

Table 5.16: Strategies for the improvement of waste collection- Ward

Test Statistics^{c,d}

| | | | | | |
|--|--|--|---|---|--|
| | three - Q3.1 In my opinion the waste collection should be | three - Q3.2 In my view waste collection should involve | three - Q3.3 I am satisfied with the present system of | three - Q3.4 More education and community participatio | three - Q3.5 I think dirt bins are not big enough to handle the average |
|--|--|--|---|---|--|

| | done by the municipality. | local community | waste collection | n will ensure a smooth management and collection of solid waste. | amounts of dirt generated by local households. |
|--|---------------------------|---------------------|---------------------|--|--|
| Z | -3.610 ^a | -5.552 ^a | -3.048 ^a | -6.716 ^a | -2.975 ^a |
| Asymp. Sig. (2-tailed) | .000 | .000 | .002 | .000 | .003 |
| a. Based on negative ranks. | | | | | |
| a. Group = Ward b. Wilcoxon Signed Ranks Test | | | | | |

The study found significant agreement waste collection should be done by the municipality (Z=-3.610a; p=0.000). The negative mean is 24.64 and the positive mean is 36.35, as shown in table 4 in the appendix. Therefore, findings show citizens want waste collection to be performed by government by owning, providing, managing or delivering the service. This may be attributed to the wards' view, privatisation of waste collection does not necessarily translate into improved efficiency, but neither do essential services become affordable. The finding is in sharp contrast to the view of the New Public Management theory that advocates for community participation in the affairs of planning, governance and overall development programmes at local or grassroots level (Mafukidze, 2009:12). Scarlat, Motola, Dallemand, Monforti-Ferrario and Mofor (2015) argue that public participation is a key aspect of South African

planning and is a re-occurring theme in several legislative and theoretical documents. According to Scarlat et al (2015), the South African Constitution provides the framework for a representative and participatory democratic system.

There is significant agreement waste collection should involve local community ($Z=5.552a, p=0.000$). The negative mean is 22.95 and the positive mean is 35.22, as demonstrated in table 5 in the appendix. The finding shows citizens believe waste collection should be a process where citizens are able to gain a better understanding of waste collection issues and share their facts, experiences, knowledge, ideas, preferences, hopes, fears, opinions, and values. The New Public Management theory states service delivery should be a process through which the community's energy is combined to produce a better outcome. Agreeing, Sinthumule and Mkumbuzi (2018) argue the local community should be encouraged to participate in waste collection as it is effective when it involves community members, and is well planned, well timed, competently staffed, and has sufficient resources.

There is significant agreement of satisfaction among respondents with the present system of waste collection ($Z=3.048a, p= 0.002$). The negative mean is 23.75 and the positive mean is 29.22, as shown in table 6 in the appendix. The cause for satisfaction is not known, but findings may show citizens are satisfied with the collection of solid waste from point of production to the point of treatment or disposal. The finding is supported by Muzenda, Ntuli and Pilusa. (2012) who found citizens were satisfied

with the waste collection system because the waste was collected from house-to-house where waste collectors visit each individual house to collect waste, satisfied because of community bins used were placed at fixed points in a neighbourhood or locality, satisfied because of the kerbside pick-up system where citizens left their garbage directly outside their homes according to a waste pick-up schedule set with the local authorities, and satisfied with the self-delivery systems, where citizens delivered waste directly to disposal sites or transfer stations. In agreement, Moya, Aldás, López and Kaparaju (2017) found people were satisfied with the waste collection system because of the effective third-party operators hired by the municipality who arrange collection schedules and charges with customers.

Findings show a significant agreement more education would ensure a smooth management and collection of solid waste ($Z=-6.716a$, $p=0.000$). The negative mean is 11.50 and the positive mean is 29.31, as shown in table 6 in the appendix. The finding implies wards feel strategies to improve waste collection should include the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs and habits in relation to waste collection. The finding resonates well with the New Public Management theory that puts the process of imparting or receiving knowledge and skills as one of the highest priorities on the waste management agenda. The theory further explains educating citizens is one way of preparing and qualifying them for work in the community as well as a way of integrating them into society and teaching them the values of

society such as participating in waste collection. In agreement, Mohee and Simelane (2015) argue education of stakeholders in service delivery can create the flexibility and dynamics for the needed organizational structure, for smooth collection of solid waste.

The study shows there is significant agreement dirt bins are not big enough to handle the average amounts of dirt generated by local households ($Z=-2.975a$, $p=0.003$). The negative mean is 14.96 and the positive mean is 24.13, as shown in table 6 in the appendix. The finding shows a larger amount of waste is produced than waste bins provided. This may be because the criteria used to provide large waste bins may not be accurate in addressing the waste issue. The finding is supported by Mbuli (2015)'s study found citizens were producing more garbage than the bins provided, and therefore were forced to dump their waste anyhow because they had no choice of getting a second bin.

The study found significant agreement waste collection should involve local community ($Z=-2.739a$, $p=0.006$). The negative mean is 0.0 and the positive mean is 5.0 as shown in table 7 in the appendix.

Table 5.17: Strategies for the improvement of waste collection - Waste Company

Test Statistics^{c,d}

| | three - Q3.1 In my opinion the waste collection should be done by the municipality. | three - Q3.2 In my view waste collection should involve local community | three - Q3.3 I am satisfied with the present system of waste collection | three - Q3.4 More education and community participation will ensure a smooth management and collection of solid waste. | three - Q3.5 I think dirt bins are not big enough to handle the average amounts of dirt generated by local households. |
|-------------------------------|--|--|--|---|---|
| Z | -.576 ^a | -2.739 ^a | -2.495 ^a | -2.041 ^a | -1.539 ^b |
| Asymp. Sig. (2-tailed) | .565 | .006 | .013 | .041 | .124 |
| a. Based on negative ranks. | | | | | |
| b. Based on positive ranks. | | | | | |
| c. Group = Waste company | | | | | |
| d. Wilcoxon Signed Ranks Test | | | | | |

The finding shows the company believes waste collection should be a process where citizens are able to gain a better understanding of waste collection issues and share their facts, experiences, knowledge, ideas, preferences, hopes, fears, opinions, and values. The New Public Management theory states service delivery should be a process through which the community's energy is combined to produce a better outcome. In agreement, Johari, Ahmed, Hashim, Alkali and M. Ramli (2012) argue

the local community should be encouraged to participate in waste collection.

There is significant agreement the company believes citizens are satisfied with the present system of waste collection ($Z=-2.495a$, $p=.013$). The negative mean is 4.00 and the positive mean is 5.67, as shown in table 8 in the appendix. The finding is supported by Mbuli (2015) who found citizens were satisfied with the waste collection system, because waste collectors visited each individual house to collect waste.

The finding shows significant agreement education has potential to ensure a smooth management and collection of solid waste ($Z=-2.041a$, $p=0.041$). The negative mean is 8.00 and the positive mean is 5.22, as shown in table 9 in the appendix. The finding shows citizens feel strategies to improve waste collection should include the process of facilitating learning in relation to waste collection. The finding resonates well with the New Public Management theory that puts the process of imparting or receiving knowledge and skills as one of the highest priorities on the service delivery management agenda.

The theory further explains educating citizens prepared to participate in waste collection. In agreement, Gumbo and Simelane (2015) argue education can create structures for easy and smooth collection of solid waste.

5.6.4 H4: HOUSEHOLD SATISFACTION OF WASTE COLLECTION

Findings show significant agreement waste collection should at least be done more than two times a week ($Z=-4.575a$, $p=0.000$). The negative mean is 26.86 and the positive mean is 34.85, as shown in table 10 in the appendix.

Table 5.18: Household satisfaction- Ward

Test Statistics^{c,d}

| | three - Q4.1 I am satisfied with the number of waste collection per week (frequency) | three - Q4.2 In my opinion the waste collection should be done more than two times a week | three - Q4.3 The current system of collection providing adequate and sustainable access to the community | three - Q4.4 Most often it happens that household's waste is not collected | three - Q4.5 I am satisfied with the level of relationship between waste collector and the community. |
|------------------------|--|---|--|--|---|
| Z | -.770 ^a | -4.575 ^a | -2.463 ^a | -1.808 ^b | -1.050 ^b |
| Asymp. Sig. (2-tailed) | .441 | .000 | .014 | .071 | .294 |

a. Based on negative ranks.

b. Based on positive ranks.

c. Group = Ward

d. Wilcoxon Signed Ranks Test

The Finding shows the current provision of waste service once a week is not adequate to the community. There is need to increase the number of times waste is collected in a week.

The study indicates significant agreement to the statement, the current system of waste collection is providing sustainable access to the community ($Z=-2.463a$, $p=0.014$). The negative mean is 22.50 and the positive mean is 25.50, as shown in table 11 in the appendix. The results indicate wards feel the waste collection provided is sustainable. Therefore, wards feel the waste collection service provided can exist constantly in the community for a long time. In agreement, Gumbo and Simelane (2015) found the goals of sustainable waste collection reduces the amount of waste littered around communities and has potential of making any materials collected to be reused as many times as possible and the waste created is kept to a minimum.

There is significant disagreement from the company that most often it happens a household's waste is not collected ($Z=-2.626b$, $p=0.009$). The negative mean is 28.13 and the positive mean is 37.34, as shown in table 11 in the appendix.

Table 5.19: Household satisfaction- Waste company

Test Statistics^{c,d}

| | three - Q4.1 I am satisfied with the number of waste collection per week (frequency) | three - Q4.2 In my opinion the waste collection should at least be done more than twice a week | three - Q4.3 The current system of collection providing adequate and sustainable access to the community | three - Q4.4 Most often it happen that household's waste is not collected | three - Q4.5 I am satisfied with the level of relationship between waste collector and the community. |
|------------------------|--|--|--|---|---|
| Z | -1.780 ^a | -1.539 ^b | -1.265 ^a | -2.626 ^b | -.183 ^a |
| Asymp. Sig. (2-tailed) | .075 | .124 | .206 | .009 | .855 |

a. Based on negative ranks.

b. Based on positive ranks.

c. Group = Waste company

d. Wilcoxon Signed Ranks Test

The finding shows the company is consistent in collecting waste. The finding implies the company is trying to achieve sameness, uniformity and fairness in the delivery or collection of waste, regardless of time, place, and occasion. In agreement, du Toit, Wagner and Fletcher The finding shows the company is consistent in collecting waste. The finding

implies the company is trying to achieve sameness, uniformity and fairness in the delivery or collection of waste, regardless of time, place, and occasion. In agreement, du Toit, Wagner and Fletcher (2017:11) found private companies providing waste collection services tend to be reliable in providing the service required at different times. Consistency in waste collection may be one of the factors contributing to the satisfaction reported in the study.

5.6.5 TESTING FOR SIG DIFFERENCES IN RESPONSES BETWEEN THE TWO GROUPS (WARD AND WASTE COMPANY)

The study applied a Wilcoxon signed ranks test on paired data to see if there is a significance difference in the responses from the waste company sample and the ward sample.

Table 5.20: Ranks

| | Group | N | Mean Rank | Sum of Ranks |
|--|---------------|----|-----------|--------------|
| Q1.1 I am of the view the cost of solid waste collection is affordable | Ward | 69 | 40.63 | 2803.50 |
| | Waste company | 10 | 35.65 | 356.50 |
| | Total | 79 | | |
| Q1.2 I feel consumers would be able to pay more for better service collection. | Ward | 64 | 36.02 | 2305.50 |
| | Waste company | 10 | 46.95 | 469.50 |
| | Total | 74 | | |
| Q1.3 In my opinion, the billing system is not accurate | Ward | 64 | 37.17 | 2379.00 |
| | Waste company | 10 | 39.60 | 396.00 |
| | Total | 74 | | |
| Q1.4 I am in the view there are too many free riders in the system | Ward | 63 | 36.54 | 2302.00 |
| | Waste company | 10 | 39.90 | 399.00 |
| | Total | 73 | | |
| Q1.5 In my view paying for extra waste collection is too costly. | Ward | 64 | 37.16 | 2378.00 |
| | Waste company | 10 | 39.70 | 397.00 |
| | Total | 74 | | |
| Q2.1 In my opinion, there is equal access in the collection of solid waste collection. | Ward | 70 | 40.94 | 2865.50 |
| | Waste company | 10 | 37.45 | 374.50 |
| | Total | 80 | | |

| | | | | |
|--|---------------|----|-------|---------|
| Q2.2 In my opinion poor people have to pay for waste collection | Ward | 69 | 38.62 | 2665.00 |
| | Waste company | 10 | 49.50 | 495.00 |
| | Total | 79 | | |
| Q2.3 Road access deprived a fair collection in poor communities | Ward | 67 | 40.06 | 2684.00 |
| | Waste company | 10 | 31.90 | 319.00 |
| | Total | 77 | | |
| Q2.4 Waste collector employs local people | Ward | 69 | 40.29 | 2780.00 |
| | Waste company | 10 | 38.00 | 380.00 |
| | Total | 79 | | |
| Q2.5 In my view poor people do not use dumping facilities because they are expensive | Ward | 69 | 39.53 | 2727.50 |
| | Waste company | 10 | 43.25 | 432.50 |
| | Total | 79 | | |
| Q3.1 In my opinion the waste collection should be done by the municipality. | Ward | 67 | 38.34 | 2568.50 |
| | Waste company | 10 | 43.45 | 434.50 |
| | Total | 77 | | |
| Q3.2 In my view waste collection should involve local community | Ward | 66 | 39.33 | 2596.00 |
| | Waste company | 10 | 33.00 | 330.00 |
| | Total | 76 | | |
| Q3.3 I am satisfied with the present system of waste collection | Ward | 64 | 38.94 | 2492.00 |
| | Waste company | 10 | 28.30 | 283.00 |
| | Total | 74 | | |

| | | | | |
|--|---------------|----|-------|---------|
| Q3.4 More education and community participation will ensure a smooth management and collection of solid waste. | Ward | 64 | 36.85 | 2358.50 |
| | Waste company | 10 | 41.65 | 416.50 |
| | Total | 74 | | |
| Q3.5 I think dirt bins are not big enough to handle the average amounts of dirt generated by local households. | Ward | 60 | 33.41 | 2004.50 |
| | Waste company | 10 | 48.05 | 480.50 |
| | Total | 70 | | |
| Q4.1 I am satisfied with the number of waste collection per week (frequency) | Ward | 69 | 41.07 | 2833.50 |
| | Waste company | 10 | 32.65 | 326.50 |
| | Total | 79 | | |
| Q4.2 In my opinion the waste collection should at least be done more than twice a week | Ward | 68 | 36.93 | 2511.00 |
| | Waste company | 10 | 57.00 | 570.00 |
| | Total | 78 | | |
| Q4.3 The current system of collection providing adequate and sustainable access to the community | Ward | 64 | 36.93 | 2363.50 |
| | Waste company | 8 | 33.06 | 264.50 |
| | Total | 72 | | |
| Q4.4 Most often it happen household's waste is not collected | Ward | 68 | 36.56 | 2486.00 |
| | Waste company | 10 | 59.50 | 595.00 |
| | Total | 78 | | |
| Q4.5 I am satisfied with the level of relationship between waste collector and the community. | Ward | 67 | 39.88 | 2672.00 |
| | Waste company | 10 | 33.10 | 331.00 |
| | Total | 77 | | |

The findings show significant disagreement among respondents who believe waste collection should at least be done more than twice a week ($Z=-2.765$, $p=0.006$). The negative mean is 36.93 and the positive mean is 57.00, as shown in table 12 in the appendix. The study suggests that residential areas generate more waste than envisioned by the waste company because of large local populations. The finding shows both the ward and the company believed waste should be collected more than twice a week.

The study revealed significant unhappiness the household's waste is not collected ($Z=-3.229$, $p=0.001$). The negative mean is 36.56 and the positive mean is 59.50, as shown in table 12 in the appendix. The findings suggest waste collection is not reliable, therefore the waste company lacks the ability to perform the service accurately and dependably. The findings may imply the company has no ability to complete the service on time, consistently (routine tasks of waste collection completed in a consistent manner) and are unable to provide an error free waste collection service every time. Therefore, findings show the ward, more than the company, believes waste is not collected from the community.

In addition, there is significant unhappiness the dirt bins are not big enough to handle the average amounts of dirt generated by local households ($Z=-2.160$, $p=0.031$). The negative mean is 33.41 and the positive mean is 48.05, as shown in table 13 in the appendix. This shows the wards, more than the company, believe the bins are not big enough for

waste from the community. The implication is there is a need for bigger bins to handle waste in the community.

5.7 Conclusion

The chapter presented data, analysis and discussion. Data presentation, analysis and discussion is based on a citizen's willingness to pay for solid waste collection, what is to be done to ensure a better waste collection management system in the area, and households' level of satisfaction regarding the privatization of waste management. The last part is this summary chapter.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the conclusions and recommendations of the study. The conclusions are based on the findings of citizens' willingness to pay for solid waste collection; what is done to ensure a better solid waste collection management system; households' level of satisfaction regarding the privatization of solid waste collection management; and the last section deals with the summary to the chapter.

6.2 Conclusion of the study

The general conclusion is based on the objectives of this study. Hence, the conclusion is being drawn from the findings related to the objectives.

6.2.1 Citizens' willingness to pay for the collection of solid waste in the Kwadukuza Municipality

The study shows there are many free riders in the solid waste collection system ($Z=-3.556$, $p<.0005$). It is therefore logical to conclude there are community members who are benefiting from solid waste collection service without paying for the service. The problem of free riders implies there is need to help the community to see the value of contributing to solid waste collection.

Findings show community members find paying for extra solid waste collection to be beyond their financial means ($Z=-2.881$, $p<.0004$). The conclusion to be drawn from this finding is the cost for extra waste collection service is set too high for the community members to afford. Therefore, community members will continue to miss out on the benefits of extra solid waste collection and continue to fail to handle the waste.

6.2.2 Effect of privatising solid waste collection on poor households within Kwadukuza Municipality

The study found wards do not want to pay for solid waste collection ($Z=-5.496$, $p<.0000$). Wards are using the problem of poverty as the reason for not wanting to pay for solid waste collection services. This may be an indication wards lack understanding of the values and principles for citizen participation in waste collection service.

The study also found inaccessible roads are depriving the community of a fair solid waste collection service ($Z=-5.496$, $p<.0.000$). It is therefore logical to state the current conditions of the roads in the community are contributing to inefficient solid waste collection. This is because poor road conditions make it difficult to collect solid waste.

The study found community members do not use dumping facilities because they are pricey ($Z=-2.675$, $p<.0007$). The conclusion to this finding is community members find the process of ensuring waste gets to the dumping sites to be financially demanding, because not all community

members stay near the dumping sites and can financially afford to take waste to the dumping sites.

On the other hand, the study found the waste company believes local people do not use dumping facilities, not because they are expensive ($Z=-2.707$, $p<.0007$). Failure not to use dumping may be caused by lack of understanding the principles and values of waste management.

6.2.3 Strategies for the improvement of solid waste collection on poor households within the Kwadukuza Municipality

The study found wards want waste collection to be done by the municipality ($Z=-3.610a$; $p=0.000$). In other words, government wards to carry out all the processes of waste collection services. This finding goes against the participatory democratic system being promoted by the South African government.

Findings show wards want the local community ($Z-5.552a$, $=0.000$) to be involved in waste collection services. This finding can be taken advantage of to help wards to have interest in the better understanding of waste collection and make their voice part of what informs the waste collection system. Involving local people in waste collection can empower them with knowledge and skills needed to enhance waste collection services.

The study found wards were satisfied with the current system of waste collection ($Z=-3.048a$, $p= 0.002$). The conclusion to be drawn from this finding is wards' expectations are met by the existing waste collection

system. However, it is not clear exactly what makes wards satisfied; an area that needs further investigations.

The study revealed wards think education programmes can promote smooth management of solid waste ($Z=-6.716a$, $p=0.000$). The finding implies wards believe facilitating learning; by imparting the communities with knowledge, skills, values, beliefs, and habits on waste collection can result in effective waste collection services.

The study found waste bins are not able to handle the waste generated by local households ($Z=-2.975a$, $p=0.003$). The study is therefore suggesting waste generated is more than the bins provided. This is an issue that should be addressed to prevent communities from throwing waste anywhere for lack of adequate bins.

Findings also show the waste company wants the local community to be involved in waste collection ($Z=-2.739a$, $p=0.006$). This may be a good strategy as it would help empower local communities with knowledge and skills needed to enhance waste collection services.

6.2.4 Household satisfaction of waste collection

Local people want waste collection to be carried out at least more than twice a week ($Z=-4.575a$, $p=0.000$). The possible conclusion from this finding is the waste collection service has not correctly considered the amount of waste the community is generating, therefore is underproviding waste collection services in terms of the frequency of collection.

On the other hand, the findings from the company show household's waste is collected ($Z=-2.626b$, $p=0.009$) as stipulated in the schedule without fail. Therefore, the findings show waste is collected regularly. This may imply the waste collection service is reliable though inadequate.

6.2.5 Recommendations

This section provides the recommendation on the primary findings of the study. To ensure there is a proper provision of solid waste services, the following recommendations should be considered by the government:

- Make free riders contribute to solid waste collection. This can be done by assigning new riders and stakeholders waste collection responsibilities; and
- Re-assess the fee for extra waste collection as it may be too high for local people to easily afford.
- Encourage wards to participate in waste collection without using poverty as a reason for not participating. This can be done by highlighting to the community the values and principles for participation in service delivery;
- Ensure roads are accessible so as not to deprive wards of fair waste collection by reworking the roads; and
- Ensure the cost for dumping sites is revisited as this may be hindering people from dumping their waste in the designated waste areas.
- Carry out waste collection service more than twice a week to ensure all waste is collected from the residential areas;

- Ensure waste collection involves the local community. This will help people to have a better understanding of the values and principles of waste collection;
- Ensure the local people are provided with education programmes to help ensure a smooth management of waste collection; and
- Ensure waste bins are big enough to handle the amounts of waste generated by local households.

6.2.6 Recommendations for future studies

- There is a need to conduct a similar study using qualitative methodology to generate data with deep insights into the phenomenon of waste collection at the municipality under study.
- There is a need to conduct a study on the causes of dissatisfaction and satisfaction with regards to the system of waste collection at the municipality under study.

6.2.7 General conclusion

This chapter presented the conclusions and recommendations of the study. The conclusions and recommendations presented are informed by findings on citizens' willingness to pay for solid waste collection, what is done to ensure a better solid waste collection management system, household's level of satisfaction regarding the privatization of solid waste collection management, and the last section is this summary to the chapter.

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8. List of Appendix

8.1 Ethical clearance



11 February 2019

Mr Billy Sihle Mokoena 200200045
School of Mangement, IT and Governance
Westville Campus

Dear Mr Mokoena

Protocol reference number: HSS/1159/018M

Project title: Assessing the impact of privatising the solid waste collection in KwaDukuza Municipality, KwaZulu-Natal Province

Full Approval – Expedited Application

In response to your application received 8 August 2018, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....
Dr Shamila Naidoo (Deputy Chair)
Humanities & Social Sciences Research Ethics Committee

/pm

cc Supervisor: Mr JC Nyawo
cc Academic Leader Research: Professor Isabel Martins
cc School Administrator: Ms Angela Pearce

Humanities & Social Sciences Research Ethics Committee
Dr Rosemary Sibanda (Chair)
Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Telephone: +27 (0) 31 260 3587/8350/4557 Facsimile: +27 (0) 31 260 4609 Email: rsibanda@ukzn.ac.za / gvymannm@ukzn.ac.za / mohurup@ukzn.ac.za
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8.2 Gate keepers letter

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KwaDukuza Municipality
MUNICIPAL MANAGER'S DEPARTMENT
Province of KwaZulu-Natal

www.kwadukuza.gov.za

| | | | | | |
|-----------------------------------|---------------------|---------------------------------|---------------------|---|---------------------------------------|
| Enquiries Imobuzo Navrae | N.J. Mdakane | Telephone Ucingo Telefoon | 032 437 5015 | Postal Address Isikhwama Seposi Pos Adres | P.O. Box 72 KwaDukuza 4450 |
| Reference Inkomba Verwysing | | Fax iFeksi Faks | 032 437 5098 | Date Usuku Datum | 2017-11-10 |

TO: Whom It May Concern

Dear Sir/Madam,

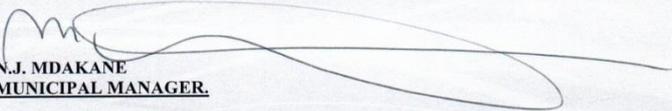
GATE KEEPER'S LETTER : BILLY SIHLE MOKOENA:

This letter serves to confirm that Billy Sihle Mokoena is an employee of KwaDukuza Municipality. He is currently doing a research as part of requirement for MPA degree. He is a student at the University of KwaZulu Natal, with a student number 200200045.

He is conducting a research on privatization of solid waste collection. The topic being researched is "Assessing the impact of privatising the solid waste collection service in KwaDukuza Municipality, KwaZulu-Natal Province."

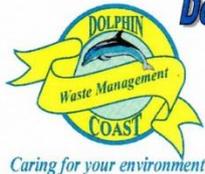
It is recommended that he be assisted with the information he requires for the purpose of this study.

Yours faithfully



N.J. MDAKANE
MUNICIPAL MANAGER.

"Committed to Service Delivery"



Dolphin Coast Waste Management (Pty) Ltd

Reg No 2005/013939/07

VAT no: 4160224210

P O Box 1576, Ballito, 4420

Telephone: (032) 947 2979 – Fax: (032) 947 0416

Email: mandla@dcwm.co.za

4 June 2018

P.O. Box 9
Dolphin Coast
4404

Attention: Mr. B. S. Mokoena

Dear Sir

GATE KEEPER'S LETTER

Your correspondence dated 14 May 2018 in the above regard has reference.

Your request in line with your studies is noted. We wish to advise that DCWM has no objection to you conducting the said study as part of your Master's Degree. We however wish to further advise that DCWM does not have the authority to directly give out information relating to the waste services in KwaDukuza as the company's services are rendered to the community on behalf of KwaDukuza Municipality.

We wish you all the best with your studies and are confident that your contribution will go a long way towards the advancement of the public service.

Assuring you of our best attention at all times.

Regards

M. Mayise

Directors : M L Mayise

8.3 Informed consent

UKZN HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE (HSSREC)

APPLICATION FOR ETHICS APPROVAL For research with human participants

Information Sheet and Consent to Participate in Research

Date: 11 June 2018

Greetings,

My name is Billy Sihle Mokoena with University of Kwa-Natal Westville Campus student number 200200045 with cellphone number 0824886050, Email: sihlem2@kwadukuza.gov.za.

I am current working for KwaDukuza municipality, ILembe District Kwa-Zulu Natal. Our offices are situated at number 10 Leonora drive in Ballito.

The researcher is fully registered under Masters of Public Administration with University of Kwa-Zulu Natal Westville Campus, and this research is conducted for the fulfillment of the requirement of a Master's Degree and improving knowledge in assessing the impact of privatising the solid waste collection service in KwaDukuza Municipality, KwaZulu-Natal Province.

You are being invited to consider participating in a study that involves research. This study is aimed at examining the performance of privatising municipal solid waste collection in the KwaDukuza area. The aim and purpose of this research is to gather information related to the level of satisfaction with regard to the privatisation of solid waste collection in the area of KwaDukuza municipality. The indirect benefit of the study is to improve the service standard of solid waste collection within the area of KwaDukuza.

The study is expected to include eight wards from the area of KwaDukuza; each ward will be represented by ten ward committee

members. Hence, there will be 80 respondents. It will involve the following procedures: the study will be conducted by distributing the questionnaire to the participants. The data collecting method to be used in this study will be in form of a questionnaire. This will be done through developing closed-ended questions. This paper is not funded and there will be no financial benefits since it considered voluntary or otherwise.

The study will not bring risk to the participants and the researcher hope that the study will improve solid waste management service delivery to ensure effective and efficient solid waste collection. The output will be useful for KwaDukuza municipality in policy formulation around the issues of environmental and service delivery. The research will not pose any risks to the participants and the study will not cause any medical treatment or psychological intervention to the participants. If they feel any discomfort or risk to the question/s, they may withdraw at any time during the study period. This study has been ethically reviewed and approved by UKZN Humanities and Social Sciences Research Ethics Committee.

In the event of any problems or concerns/questions you may contact the researcher at 0824886050 or email at sihlem2@kwadukuza.gov.za or the UKZN Humanities & Social Sciences Research Ethics Committee, contact details as follows:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION
Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban 4000 KwaZulu-Natal, SOUTH AFRICA
Tel: 27 31 2604557- Fax: 27 31 2604609
Email: HSSREC@ukzn.ac.za

Your participation in the study is voluntary and by participating, you are granting the researcher permission to use your responses. You may refuse to participate or withdraw from the study at any time with no

negative consequence. There will be no monetary gain from participating in the study. Your anonymity will be maintained by the researcher and the School of Management, I.T. & Governance and your responses will not be used for any purposes outside of this study.

All data, both electronic and hard copy will be securely stored during the study and archived for 5 years. After this time, all data will be destroyed.

If you have any questions or concerns about participating in the study, please contact me or my research supervisor at the numbers listed above.

Sincerely
Billy Sihle Mokoena
(Researcher name and signature)

CONSENT TO PARTICIPATE

I..... have been informed about the study entitled “Assessing the impact of privatising the solid waste collection service in KwaDukuza Municipality, KwaZulu-Natal Province” by Billy Sihle Mokoena.

I understand the purpose and procedures of the study.

I have been given an opportunity to ask questions about the study and have had answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any of the benefits that I usually am entitled to.

I have been informed about any available compensation or medical treatment if injury occurs to me as a result of study-related procedures.

If I have any further questions/concerns or queries related to the study I understand that I may contact the researcher at sihlem2@kwadukuza.gov.za or 0824886050.

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, SOUTH AFRICA
Tel: 27 31 2604557 - Fax: 27 31 2604609
Email: HSSREC@ukzn.ac.za
Additional consent, where applicable

I hereby provide consent to:

| | |
|--|----|
| Audio-record my interview / focus group discussion | NO |
| Video-record my interview / focus group discussion | NO |
| Use of my photographs for research purposes | NO |

Signature of Participant

Date

**Signature of Witness
(Where applicable)**

Date

**Signature of Translator
(Where applicable)**

Date

8.4 Questionnaires

8.4.1 Ward Committee members

Category A

Questionnaire

Section A: Professional Information

Please read the questions carefully and answer them very honestly.

Mark the selected answers with an **X** next to each question.

Please select only one answer.

1. Please indicate your gender:

Male

Female

2. Please indicate your race.

Indian

African

White

Coloured

Other?

3. Please indicate your position in a ward committee.

Chairman

- Vice Chairman**
- Secretary**
- Member**
- Representative for the waste collection company**
- Other?**

4. Please indicate the years of experience in ward

- Less than a year**
- 1 – 5 years**
- 6 – 10 years**
- 11 – 15 years**
- 16 - 20 years**
- More than 21 year?**

5. Please indicate your level of education.

- Uneducated**
 - Primary school**
 - High school**
 - Tertiary**
 - Other (please specify)**
-

Section B

Please indicate whether you: Strongly Agree, Agree, Strongly Disagree, or Disagree with each of the following statements

Please indicate whether you: Strongly Agree, Agree, Strongly Disagree, or Disagree with each of the following statements

(Objective 1).

- To determine the citizen's willingness to pay for the collection of solid waste in KwaDukuza municipality.

| Question | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|---|----------------|-------|---------|----------|-------------------|
| 1. I am in the view that the cost of solid waste collection is affordable | | | | | |
| 2. In feel that consumers would be able to pay more for better service collection | | | | | |
| 3. In my opinion, the billing system is not accurate | | | | | |
| 4. I am in the view that there are too many free riders in the system | | | | | |
| 5. In my view paying for extra waste collection is too costly | | | | | |

(Objective 2).

- To determine the effect of privatisating of solid waste collection on poor households within KwaDukuza municipality.

| Question | Strongly Agree | Agree | Neutral | Strongly Disagree | Strongly Disagree |
|---|-----------------------|--------------|----------------|--------------------------|--------------------------|
| 1. In my opinion, there is equal access in the collection of solid waste collection. | | | | | |
| 2. In my opinion poor people have to pay for waste collection | | | | | |
| 3. Road access deprived a fair collection in poor communities | | | | | |
| 4. Waste collector employs local people | | | | | |
| 5. In my view poor people do not use dumping facilities because they are expensive | | | | | |

(Objective 3).

To assess the strategies in place for the better management and collection of solid waste in KwaDukuza municipality.

| Question | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|--|-----------------------|--------------|----------------|-----------------|--------------------------|
| 1. In my opinion the waste collection should be done by the municipality | | | | | |
| 2. In my view waste collection should involve local community | | | | | |
| 3. I am satisfied with the present system of waste collection | | | | | |
| 4. More education and community participation will ensure a smooth management and collection of solid waste | | | | | |

| | | | | | |
|--|--|--|--|--|--|
| 5. I think dirt bins are not big enough to handle the average amount of dirt generated by local households | | | | | |
|--|--|--|--|--|--|

(Objective 4).

To determine the level of household’s satisfaction with the privatised service of waste collection in KwaDukuza municipality.

| Question | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|--|-----------------------|--------------|----------------|-----------------|--------------------------|
| 1. I am satisfied with the number of waste collection per week(frequency) | | | | | |
| 2. In my opinion the waste collection should at least be done more than two times a week | | | | | |
| 3. The current system of collection | | | | | |

| | | | | | |
|--|--|--|--|--|--|
| providing adequate and sustainable access to the community | | | | | |
| 4. Most often it happen that household's waste is not collected | | | | | |
| 5. I am satisfied with the level of relationship between waste collector and the community | | | | | |

8.4.2 Waste collection

Category B (Waste collection company’s representatives)

Section A: Biographic and Professional Information

Please read the questions very careful and answer them honestly.

Mark the selected answers with an **X** next to each question.

Please select only one answer.

1. Please indicate your gender:

Male

Female

2. Please indicate your race.

- Indian**
- African**
- White**
- Coloured**
- Other**

3. Please indicate your official position in your company.

- Director**
- Manager**
- Supervisor**
- Employee**
- Other**

4. Please indicate the years of experience with the company.

- Less than a year**
- 1 – 3 years**
- 4 – 9 years**
- 10 – 19 years**
- 20 - 29 years**

More than 30 years

5. Please indicate your highest academic qualifications.

- uneducated
 - primary education
 - high school Education
 - under graduate or diploma
 - Honours Degree
 - Honours Degree plus Teaching Diploma
 - Master's Degree
 - Master's Degree plus Teaching Diploma
 - Doctoral Degree plus Teaching Diploma
 - Other (please specify)
-

Section B

Please indicate whether you: Strongly Agree, Agree, Strongly Disagree, or Disagree with each of the following statements

Please indicate whether you: Strongly Agree, Agree, Strongly Disagree, or Disagree with each of the following statements

(Objective 1).

- To determine the citizen's willingness to pay for the collection of solid waste in KwaDukuza municipality.

| Question | Strongly Agree | Agree | Strongly Disagree | Disagree |
|--|-----------------------|--------------|--------------------------|-----------------|
| 6. I am in the view that the cost of solid waste collection is affordable | | | | |
| 7. In feel that consumers would be able to pay more for better service collection | | | | |
| 8. In my opinion, the billing system is not accurate | | | | |
| 9. I am in the view that there are too many free riders in the system | | | | |
| 10. In my view paying for extra waste collection is too costly | | | | |

(Objective 2).

- To determine the effect of privatisating of solid waste collection on poor households within KwaDukuza municipality.

| Question | Strongly Agree | Agree | Strongly Disagree | Disagree |
|---|-----------------------|--------------|--------------------------|-----------------|
| 6. In my opinion, there is equal access in the collection of solid waste collection. | | | | |
| | | | | |

| | | | | |
|---|--|--|--|--|
| 7. In my opinion poor people have to pay for waste collection | | | | |
| 8. Road access deprived a fair collection in poor communities | | | | |
| 9. Waste collector employs local people | | | | |
| 10. In my view poor people do not use dumping facilities because they are expensive | | | | |

(Objective 3).

To assess the strategies in place for the better management and collection of solid waste in KwaDukuza municipality.

| Question | Strongly Agree | Agree | Strongly Disagree | Disagree |
|--|-----------------------|--------------|--------------------------|-----------------|
| 6. In my opinion the waste collection should be done | | | | |

| | | | | |
|--|--|--|--|--|
| by the municipality | | | | |
| 7. In my view waste collection should involve local community | | | | |
| 8. I am satisfied with the present system of waste collection | | | | |
| 9. More education and community participation will ensure a smooth management and collection of solid waste | | | | |
| 10. I think dirt bins are not big enough to handle the average amount of dirt generated by local households | | | | |

(Objective 4).

- To determine the level of household’s satisfaction with the privatised service of waste collection in KwaDukuza municipality.

| Question | Strongly Agree | Agree | Strongly Disagree | Disagree |
|--|----------------|-------|-------------------|----------|
| 6. I am satisfied with the number of waste collection per week(frequency) | | | | |
| 7. In my opinion the waste collection should at least be done more than two times a week | | | | |
| 8. The current system of collection providing adequate and sustainable access to the community | | | | |
| 9. most often it happen that household's waste is not collected | | | | |
| 10.I am satisfied with the level of relationship between waste collector and the community | | | | |