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THE IMPLEMENTATION OF A WASTE REGULATORY FRAMEWORK IN THE CITY OF JOHANNESBURG

by

Raphael Kanti Simelane

A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand in 50% fulfilment of the requirements for the degree of Master of Management (in the field of Public and Development Sector Monitoring and Evaluation)

MAY 2017

ABSTRACT

High volumes of illegally dumped waste and littering in the City of Johannesburg have legal, socio-economic and environmental implications and are also an indicator of ineffective waste regulatory framework implementation. Inadequate waste regulation enforcement suggests poor waste governance that impacts negatively on urban management. This research sought to identify the underlying reasons for this, drawing on data obtained from documents and interviews with representatives of the City of Johannesburg and members of the community.

The findings revealed four broad themes that should be considered for effective implementation of the waste regulatory framework: the waste governance model, waste regulation measures, leadership in waste management, and public value for waste services. Factors that contributed to ineffective implementation included lack of leadership to drive waste policy and plans, waste governance characterised by poor relations amongst actors, lack of solidarity, lack of trust and reciprocity, lack of mutual support and shared sense of purpose, inadequate intellectual capital required for effective waste policy implementation, and limited power to mobilize both financial and tangible resources to fulfil the waste policy mandate and obligation.

The high volume of illegally dumped waste throughout the City as well as high levels of littering reflect weaknesses in urban management and governance of the City. This discourages potential investors that are critically needed to promote growth, since the cleanliness of a City and the effectiveness of its solid waste management system are used as a proxy indicator of good governance.

DECLARATION

I declare that this report is my own unaided work. It is submitted in partial fulfilment of the requirements of the degree of Master of Management (in the field of Public and Development Sector Monitoring and Evaluation) in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other university.

_____

Raphael Kanti Simelane

May 2017

ACKNOWLEDGEMENTS

My appreciation and gratitude goes to my Creator Almighty for restoring my life purpose and providing resources for the completion of this project.

Secondly, I thank my sister Chumile, for believing in me and providing unconditional support.

Thirdly, I thank my son Bandile, for his inspiration and understanding that dad was pursuing his professional growth.

Fourthly, appreciation is due to CoJ officials and community members who participated in this study and openly shared their knowledge and experiences.

Fifthly, I extend my appreciation to my friends and colleagues for continuous encouragement and support.

Lastly, I acknowledge my mentor, coach and supervisor Dr J Matshabaphala for his wisdom, professional support, encouragement, honesty and spirit of *Ubuntu.*

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LIST OF ABBREVIATIONS

BMU	By-law Management Unit
COJ	City of Johannesburg
DEA	Department of Environmental Affairs
EISD	Environment and Infrastructure Services Department
GDARD	Gauteng Department of Agriculture and Rural Development
GL&C	Group Legal & Contracts
ICOP	Integrated Community Outreach Programme
ISWM	Integrated Sustainable Waste Management
IWMPlan	Integrated Waste Management Plan
IWMPolicy	Integrated Waste Management Policy
JMPD	Johannesburg Metro Police Department
LIPRO	Licencing & Prosecutions Processing
MC&P	Municipal courts and prosecutions
MOE	Municipal Owned Entity
NEMWA	National Environmental Management: Waste Act
PIU	Pikitup
SDA	Service Delivery Agreement
SADC	Southern African Development Community
SOC	State Owned Company
SOR	Struck off the court roll
WM&R	Waste Management and Regulation

CHAPTER ONE
INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

This chapter provides the background to the study. It explores global waste management practices in different cities with a focus on waste regulation and governance of waste. It then discusses waste management practices in African cities and the state of the South African waste management regime from national, provincial and local government authorities with the emphasis on the role of each level. Lastly, it discusses the research problem, purpose of the study, research questions and significance of the study.

1.2 BACKGROUND TO THE STUDY

Managing solid waste is one of the critical urban management issues for cities around the world. The Habitat World Forum (United Nations, 2001) suggested that the cleanliness of a city and the effectiveness of its solid waste management system may be used as a proxy indicator of good governance. Dirty cities create a perception of ineffective urban administration. Scheinberg, Wilson and Rodic (2010)) observes that when one deals with waste management issues, integrated sustainable waste management (ISWM) has been accepted as a worldwide approach. ISWM is the strategy utilised to deliver a well-functioning waste management system. The study carried out in twenty cities around the world distinguished the following interrelated requirements for delivering ISWM under the framework of good waste governance: inclusiveness, financial sustainability, sound institutions and proactive policies.

Scheinberg et al. (2010) observes that ISWM tests the full range of governance skills, which include priority setting, strategic planning,

consultation, decision-making, law-making, financial management and enforcement. In most countries, local authorities are responsible for the public good of protecting the environment and managing solid waste. Most cities have similar waste management issues pertaining to policy commitment and existence of clear policy frameworks that are established at municipal level in relation to sustainable solid waste management in both strategic municipal urban plans and sector-specific waste management plans.

In African cities, as elsewhere in the world, solid waste management is a local government function and proper handling of this function is taken as an indicator of the success of urban reform and management (Oteng-Ababio, Arguello & Gabbay, 2013). The rapid rate of urbanization in Africa demands an improved level of services which presents a serious challenge to governance due to uncontrolled and unplanned urbanization. According to Kazungu (2010, p. 2) “Rapid urbanization in African cities challenges the governance capacity of African countries and gives a clear indication of the need for adequate, efficient and reliable waste management services which are typically not found in African cities”. The importance of appropriate policy context including the necessary regulation was identified as one of the main issues in Ghana and Kenya, for example (Van Dijk & Oduro-Kwarteng, 2007). It was concluded that “decentralization and private sector participation in waste management systems was insufficient if proper policies, strategic frameworks for performance management and regulations are not strictly followed” (Van Dijk & Oduro-Kwarteng, 2007, p. 1).

Van Dijk and Oduro-Kwarteng (2007) found that solutions to poor service delivery experienced in Africa depend not only on private sector involvement but also on the capacity of actors in solid waste, institutional arrangements and the ability of the local government to monitor performance, and regulate and facilitate solid waste service delivery. In the assessment of regulatory

frameworks, the Nairobi City Council had the responsibility for policy implementation, collection and disposal of waste, regulation and monitoring of waste companies and waste generators, and enforcement of all laws including the by-laws relating to waste and co-ordinating all actors involved in solid waste management. Awartwi (2003) observes that in Ghana the implementation of policy directives was not fully followed. Most cities in the Southern African Development Community (SADC) face the challenge of having to manage high volumes of waste due to limited capacity and high costs involved in waste management. SADC identified waste management as one of the priority issues affecting it, and as a result committed to promoting sound environmental management through pollution control, waste management and environmental education. Poor enforcement of legislation coupled with inadequate human resources and equipment were found to be contributing factors to high levels of illegal dumping of waste in the SADC region.

In South Africa Oelofse and Godfrey (2008, p. 5) concludes that “Currently most municipalities have a challenge to deliver sustainably waste management services”. Oelofse and Godfrey (2008) suggests four broad themes of the challenges faced by local authorities: financial management, equipment management, staff management and institutional behaviour with holistic planning and enforcement as one of the main issues. Most South African cities are characterized by non-integrated planning and poor implementation of waste plans when these do exist. There is inadequate enforcement of waste legislation and waste by-laws and the successful prosecution of waste offenders is limited. These factors contribute to high levels of illegal dumping and littering accompanied by continued waste offences (Oelofse & Godfrey, 2008).

The South African National Environment Management: Waste Act 59 of 2008 (NEMWA) gives municipalities regulatory powers with regard to waste management. Municipalities have the executive authority to administer and

provide municipal waste service delivery in their local communities (Constitution of South Africa, 1996). NEMWA requires that municipalities must set waste service standards which are aligned to provincial and national standards. The waste regulatory instrument that municipalities develop and implement in support of waste standards in order to implement NEMWA is municipal waste by-laws. These by-laws set standards for the entire waste management value chain − that is, waste generation, waste storage, aste transportation, waste treatment, waste recovery and waste disposal. To provide further guidance to municipalities, the South African Department of Environmental Affairs developed generic waste by-laws based on national waste standards. These by-laws were identified as a regulatory instrument that can support the programme of effective and efficient delivery of waste services in South Africa (National Waste Management Strategy).

The Gauteng Provincial Government serves as a primary regulatory authority for waste management activities. The City of Johannesburg Municipal Council is one of the metropolitan councils of Gauteng Province. Municipal waste services provided by the City of Johannesburg are regulated and informed by the provincial waste management policy and strategies (Gauteng Provincial Integrated Waste Management Policy). Gauteng Provincial Government is mandated to ensure the provision of consistent, uniform waste collection and cleaning services which are equitable, appropriate, and environmentally and socially acceptable to Gauteng communities in accordance with the general waste collection standards for Gauteng. The waste services standards determined by the City of Johannesburg must be informed by and aligned to Gauteng province waste collection standards.

The City of Johannesburg Municipality (CoJ) has a statutory mandate to provide waste management services to CoJ citizens as articulated in the South African Constitution, Act 108 of 1996. Section 156(2) of the

Constitution states that, “a municipality may make and administer by-laws for the effective administration of the matters which it has the right to administer” (South African Constitution, 1998, p. 76). To fulfil the statutory obligations of setting waste services standards as reflected in NEMWA, CoJ developed waste management by-laws that were promulgated in July 2013. Prior to these by-laws CoJ had by-laws which were gazetted in the year 2000. These by-laws repealed a number of waste by-laws that had been promulgated under the previous administration. It became necessary for these by-laws to be amended and aligned to NEMWA. Amending and aligning these by-laws provided an indication that CoJ understands that waste regulatory instruments at the local authority level need not be in conflict with national and provincial waste standards. The main purpose of waste by-laws is to set clear waste service standards in the CoJ. Objectives of these by-laws include:

1. To ensure that waste is avoided, or where it cannot be avoided, it should be minimised, re-used, recycled, recovered and disposed of in an environmentally sound manner.
2. To promote sustainable development and environmental justice through fair and reasonable measures for the management of waste within the Council’s jurisdiction.
3. To regulate the collection, transportation, storage, disposal, treatment and recycling of waste within the Council’s jurisdiction.
4. To regulate and ensure effective delivery of the municipal service and regulate the provision of commercial services through accreditation of service providers.
5. To ensure that all municipal residents and businesses in the Council jurisdiction participate in the promotion of responsible citizenship by ensuring sound waste management practices within residential and industrial environments (CoJ: Waste By-laws, 2013).

Successful attainment of these objectives makes a significant contribution towards the City’s strategic objective of a smart city and vibrant urban

environment. The waste regulatory framework and waste governance is necessary to ensure a clean urban environment, and living conditions that comply with health and safety requirements, thereby supporting the environmental rights of citizens as enshrined in section 24 of the South African Constitution (RSA Constitution, 1998).

1.3 THE RESEARCH PROBLEM STATEMENT

Waste regulation implementation in the CoJ has challenges that manifest in the form of high levels of littering and illegally dumped waste. The annual report on waste service provision showed an increase in tonnages of illegal dumped waste from 229,709 tons in the 2013/2014 financial year to 276,806 tons in the 2014/2015 financial year, a 20% increase. However, the report is silent on waste offenders and regulatory actions taken against them to discourage and reduce the extent of illegally dumped waste. Considering the negative environmental, social and economic impacts associated with poorly disposed of waste, clearly the capacity of waste governance that supports and ensures the efficient and effective implementation of waste regulation, enforcing and maintaining waste service standards in the CoJ needs to be examined.

1.4 THE RESEARCH PURPOSE STATEMENT

The purpose of this study was to assess and examine the extent to which waste regulation is capable of addressing waste contraventions, and further analysed the ability of a waste governance system to support the implementation of waste regulatory framework in the CoJ. The study then presents the findings in relation to waste governance and the regulatory framework, interprets and analyses the findings, and on that basis draws conclusions in relation to waste governance strategies and waste regulation practices.

1.5 THE RESEARCH QUESTIONS

The research questions answered by the study are:

1. To what extent has waste regulation addressed waste contraventions in the CoJ during the 2013-2014 to 2014-2015 financial years?
2. What were the waste governance capitals (intellectual, social, material and political) put in place to support waste regulation implementation?
3. What were the results of waste regulation enforcement during the 2013-2014 and 2014-2015 financial years?
4. How enforceable, relevant and applicable are the waste regulatory instruments found in the CoJ?

1.6 SIGNIFICANCE OF THE STUDY

The City of Johannesburg has a mandate to provide waste services to the standards aligned with and systematic to national and provincial waste standards. These standards are reflected in the Waste Management By-laws which were promulgated in 2013. The successful implementation of these by-laws is questionable since there is evidence of waste disposal malpractice throughout the city in the form of illegal dumped waste and littering. This is a catalyst for the assessment of the implementation of the waste regulatory framework and how waste is governed within the City. This study examined and evaluated the institutional challenges and other resources/capitals provided for the implementation of waste regulation. Its significance lies in showing how critical a well-developed waste governance system is in supporting the implementation of the waste regulations.

Scheinberg, et al. (2010) concludes that when solid waste systems fail, the observation of 35 professionals working on the original Habitat project was

that they seldom do so for technical reasons, but because of political, economic or institutional reasons. To that effect Scheinberg, et al. (2010) observes three inter-related requirements for delivering ISWM under the framework of good waste governance, which are inclusivity, financial sustainability and a base of sound institution and proactive policy. The rationale for this study was to understand the functioning of the waste regulatory framework given the requirements stated by Scheinberg, et al. (2010). Davoudi and Evans (2005) argues that the nature of the waste-policy sector, which is the object of governance, provides suitable ground upon which transition to governance may take place. Further articulated forms of capital that are central to the success of waste governance in enhancing its ability are intellectual capital, social capital, material capital and political capital. Forms of capital within the City of Johannesburg that are provided for waste governance were analysed to further understand the challenges associated with insufficient waste regulation implementation. This research aims to increase the body of knowledge pertaining to waste governance and regulation at municipal level.

1.7 REPORT OUTLINE

This research report contains six chapters as explained below.

Chapter One: Introduction and Background: The brief introduction and background of the study is covered in this chapter. A problem statement, purpose of the study, research questions and the significance of the study are all reflected here.

Chapter Two: Literature Review: The review of relevant literature from different sources and authors that address the same subject matter of this study is dealt with in chapter two. These sources assist the reader to better understand the identified gaps and challenges with regard to waste

regulation from different cities internationally, continentally, nationally and locally. The approach to this study was also informed by different literature.

Chapter Three: Research Methodology: Different research approaches are discussed in this chapter and further describe the research design that was chosen. How data was collected, presented and analysed together with reliability and validity of this research is explained. The limitations and ethical considerations of this study are explained.

Chapter Four: Presentation of the Findings: This section presents and discusses results of the research findings based on the data collection methods used. Furthermore, it provides the profile of the respondents interviewed. The examination of records for cross-validation is also found in this section.

Chapter Five: Interpretation and analysis of findings:
The interpretation and analysis of findings are presented in this section. This section further makes linkages between the problem statement and conceptual framework. Findings are analysed and interpreted according to the sources of data.

Chapter Six: Conclusions and Recommendations: This section presents the conclusions drawn based on the findings and links these with the purpose of the study. In summary, it reflects on how the study gives answers to the research questions and further outlines how the purpose of the study contributes to the existing body of knowledge. The recommendations on waste regulation to global cities, African cities and South African waste management system are made in this section. Finally, direct recommendations to the City of Johannesburg waste regulatory framework are presented.

1.8 CONCLUSION

Waste management challenges are common in most cities in the world. The contributory factors to these challenges vary between locations and are partly influenced by how developed the specific region is. The critical role that efficient waste management service delivery plays with regard to successful urban reform and governance was emphasized. It was clarified that for waste services standards to be enforced and successfully maintained, waste legislation at all levels of government must be systematic implemented. Equally important in the implementation of waste regulation is the impact made by waste regulation in ensuring safety and a healthy living environment as a result of sustained waste service delivery.

CHAPTER TWO
LITERATURE REVIEW

2.1 INTRODUCTION

This chapter emphasizes the significance of conducting a literature review. Both theoretical and conceptual frameworks that directed and gave focus to this study are discussed here. The main theories that form the basis of this research are defined. Detailed information on the selected concepts and the rationale is provided.

2.2 SIGNIFICANCE OF LITERATURE REVIEW IN RESEARCH

Onwuegbuzie and Collins (2010) defines literature review as an interpretation of selected relevant published and/or unpublished information that is available on a specific topic from one of the four models, which are documents, talks, observations and videos or photographs that optimally involve summarization, analysis, evaluation and synthesis of the information. There are five key words derived from this definition, namely interpretation, selection, summarization, analysis and synthesis. Each term represents a specific stage that must be accomplished by the reviewer during the literature review process.

Neuman (2011) contends that there are four goals of literature review, the first one being to demonstrate familiarity with a body of knowledge and establish credibility. The reader then becomes informed that the researcher is aware of the major issues surrounding his or her topic and has conducted research. The second goal is to show the path of prior research and how the researcher's project is linked to it. The researcher is enabled to place his /her research project in a specific context and demonstrate its relevance by making connections with the already existing body of knowledge. The third goal is to integrate and summarize what is known while pulling together

and synthesizing different results. This process aligns with the key terms alluded to by Onwuegbuzie and Collins (2010). Fourthly, researchers learn from others when conducting a review of literature because other authors state what they have found and a good review of literature identifies and suggests hypotheses for replication, and divulges procedures, techniques and research designs worth copying so that the researcher can gain new insight.

In agreement with Neuman (2011), Welmer, et al., (2005) when discussing the significance of literature review states that the researcher is provided with important facts and background information about the subject under study. It also prevents the researcher from duplicating previous studies. The aspects of the problem that have not been examined or assessed become exposed to the researcher. Furthermore, the researcher develops insights regarding the weaknesses and problems of previous studies.

Literature review helps the researcher to develop an argument and a distinctive stance on the subject. It further reveals how the work of others has contributed to the chosen field of study. It is a first step in narrowing a topic into researchable question(s) and plays a critical role in determining both the feasibility and credibility of research. Literature review challenges the researcher to think how his or her work will extend, modify, support or challenge the work of others (Neuman, 1997).

2.3 THEORETICAL FRAMEWORK

2.3.1 Multi-actor Environmental Governance

Environmental issues have become an international concern and require collaborative efforts to address them. Issues like climate change and global warming have been at the centre of discussion in the international public domain. Waste management has attracted worldwide concern due to its

impact on climate change, in particular through landfill site gas emissions of methane and carbon dioxide. Multi-actor environmental governance has emerged and expanded since the early 1990s to address environmental problems and sustainability at international level. There is a growing body of literature on multi-actor environmental governance and some researchers have critically assessed this phenomenon (Newell, Pattberg & Schroeder, 2012). Multi-actor environmental governance simply refers to the co-operation and inclusion of different actors in tackling environmental problems of global concern. It takes cognisance of the fact that environmental issues are complex, multifaceted and know no boundaries. Different actors include public actors, private actors, civil society, international organisations, regional environmental arrangements and public-private partnerships.

The international community has realized that the traditional mode of state-based regulation is limited in terms of reach, effectiveness, authority and/or legitimacy. This limitation results in the state being unable to address complex global environmental problems where the engagement and participation of different actors is seen as crucial. The benefit that is drawn from multi-actor governance arrangements is the sharing of resources and international agreements and treaties that promote commitments from member states. These actors may apply multi-criteria analysis when making decisions on environmental problems (Andries, Corondo, Dosal, Manoz & Viguri, 2012). Multi-stakeholder initiatives formulate a legitimate endeavour to build and improve on how the state responds to environmental threats. “Established actors become more involved than only lobbying on environmental issues and their place in relation to decision-making within environmental processes is identified” (Newell, Pattberg & Schroeder, 2012, p. 368).

When reviewing this mode, Newell, et al., (2012) observes that evaluating the sustainability impact of governance arrangements is difficult for

identifiable reasons. Newell, et al., (2012) contends that while these mechanisms are acknowledged to improve environmental performance, establishing causality remains a major research challenge, and multi-actor governance has considerable effects, both intended and unintended, that reach beyond direct regulation through rules and standards. It was noticed, however, “that the cities and municipalities through trans-city networks take on global responsibility ahead of and beyond that of state governments with emphasis on soft results of city networks in solving environmental problems” (Newell et al., 2012, p. 377).

The review by Newell, et al., (2012) shows that the effectiveness of multi-actor arrangements in environmental terms depends on four factors: 1) the resources; 2) level of buy-in of the most powerful and relevant actors; 3) their degree of global reach; and 4) the extent to which they can mobilize sanctions in the face of non-compliance (Newell et al., 2012, p. 377). Waste regulation frameworks involve different stakeholders with different expertise and obligations. These points are relevant because for a successful regulation regime the commitment of influential and powerful stakeholders is necessary. As Bulkeley, Hudson, Watson and Weaver (2005) notes, there are ranges of drivers which are shaping the framework for municipal waste planning, with one of the decisive factors driving change being legislation.

It is necessary that the correct method of engaging with multiple stakeholders involved in waste management is selected since many studies on finding waste management solutions have acknowledged the involvement of stakeholders in decision-making (Soltani, Hewage, Reza & Sadiq, 2015, p. 325). Multi-criteria decision analysis as a sub-discipline of operations research can be useful in waste management system analysis as waste management requires not only sound technical assessment of risk but also public participation and stakeholder dialogue on proposed solutions and associated risks (Achillas, Moussiopoulos, Karagiannidis, Banias & Perkoulidis, 2013, p. 116).

2.3.2 Integrated Solid Waste Management

The current and widely used general waste management paradigm in developing and developed states is that of integrated solid waste management (ISWM). This concept attempts to balance and harmonize all critical aspects of waste management, namely environmental effectiveness, social acceptability and economic affordability (Marshall & Farahbakhsh, 2013, p. 995). ISWM tries to bring together all related processes and entities that make up the waste management system in a more co-ordinated and well-aligned fashion. It relates to the multi-actor environmental governance theory in the sense that both take cognisance of the importance of engagement and co-operation of different stakeholders. Farahbakhsh and Marshall (2013) contends that ISWM systems are tailored to specific community goals by incorporating stakeholders' perspectives, needs and local context (Marshall & Farahbakhsh, 2013, p. 995).

However, ISWM has become open to different interpretations and applications by different actors in real life as it lacks actual integration. In the United States, many ISWM programmes were observed to have lost the essence of integration as they only focused on individual components making up the system instead of the system as a whole (Thornloe, et al. as cited in Farahbakhsh & Marshall, 2013). Some researchers point out that managing waste in a systematic level is difficult in the absence of regulation. One example of this is from Turkey where insufficient information about regulations resulted in a lack of organisation and planning in municipal waste management (Turan, Çoruh, Akdemir & Ergun, 2009, p. 469). Major gaps still exist in ISWM practices in high-income countries, the lack of systematic thinking being pinpointed as a major contributor to the inadequacy of the ISWM approach (Marshall & Farahbakhsh, 2013, p. 997).

To counteract the lack of a systematic thinking approach, Farahbakhsh and Marshall (2013, p. 977) explores two schools of thought of particular relevance to the challenges faced in the solid waste management sector from developing countries; those are post-normal science and complex adaptive eco-social system (CAS). Post-normal science was developed as a problem-solving framework in response to increasing challenges at the intersection of policy, risk and environment (Funtowicz & Ravetz as cited in Farahbakhsh & Marshall, 2013). This emerging science is viewed as a platform from which issues that traditional scientific methodologies fail to handle can be approached. Such issues have either high uncertainties or high decision-making stakes. Many solid waste management systems analyses have considered the importance of uncertainty in relation to decision-making but have failed to include multiple legitimate perspectives and therefore fail to consider the high decision stakes associated with solid waste processes (Marshall & Farahbakhsh, 2013, p. 977). This is attributed to the lack of authentic stakeholder involvement.

Complexity theory is concerned with modelling and describing complex non-linear systems and developing a unified view of life by integrating life's biological, cognitive and social dimensions. CAS characterizes the reality which is composed of complex open systems, and crucial to these systems is a concept of multiple scales (Marshall & Farahbakhsh, 2013, p. 999). Central to the CAS approach is the necessity of including multiple perspectives. Farahbakhsh and Marshall (2013) concludes that there is a lack of literature exploring the actual application of post-normal approaches and complex adaptive system thinking to solid waste management systems in developing countries (Marshall & Farahbakhsh, 2013, p. 1001). The lack of new approaches emerging from the interface of solid waste management, post-normal science and complex-adaptive system research of solid waste management systems in many developing regions continues to threaten and degrade the health of vulnerable people and ecosystems. The implementation of an integrated and sustainable management approach

that ensures the good health of society and the environment was viewed as the best approach (Khatib, 2011, p. 48).

2.3.3 Integrated Sustainable Waste Management

The Integrated Sustainable Waste Management (ISWM) model is a model that allows studies of the complex and multi-dimensional systems in an integral manner. This model was developed by waste advisors on urban environment and development and partners or organizations working in developing countries in the mid-1980s, and further developed by the collaborative working group on solid waste management in the mid-1990s (Guerrero, Maas & Hogland, 2013, p. 220). This model acknowledges the importance of three dimensions when analysing, developing or changing a waste management system. These dimensions are stakeholders that have an interest in solid waste management, and the elements or flow of materials from the generation points towards treatment and final disposal and the aspects through which the system is analysed. The assessment of solid waste management by using system analysis techniques allows decision-makers to learn about total system complexity (Chang, Martinho & Pires, 2011).

When investigating the stakeholder's action/behaviour and factors that influence the elements of the City's waste management system, technical, environmental, legal and institutional linkages are present to enable the overall system to function, including key factors that affect the performance of the solid waste management system (Guerrero, et al., 2013, p. 228). These key factors are critical in ensuring the success of the integrated sustainable waste management model.

Diverse backgrounds and experiences brought by different stakeholders play a role in shaping the systems of the city. Since waste management is a multi-dimensional issue, the system needs to not only be based in

technological solutions but should be linked with other dimensions like legal, economic and institutional factors. The success of ISWM requires financial support and other necessary resources, municipal leaders in waste management, and the participation of the service users to ensure a sustainable system. Reliable data is critical in ensuring that decision-makers are provided with proper information for planning and policy making. The ISWM requires adequate policies, strong regulation and appropriate legislation as an important aspect that influences positive waste management system performance. For example, Zotos, Karagiannidis, Zampetoglou, Malamakis, Antonopoulos, Kontogianni and Tchobanoglous (2009, p. 1692) concludes that a major challenge in improving services in waste management for local government in Greece was the effective co-operation with various stakeholder initiatives, since environmental policy requires the participation of all parties.

Cohen and Din (2013) reviewed the key elements for best performance and profitability of municipal solid waste management in low income cities in Africa and identified the lack of mandatory and environmental regulations and enforcement of these regulations as one of the features that define municipal solid waste management. They concluded that waste collection and transportation is necessary but cannot stand alone due to economic aspects and environmental regulations (Din & Cohen, 2013, p. 436). Weaknesses in both planning and institutional structure become worse because of the lack of enforcement of regulations (Masood, Barlow & Wilson, 2014, p. 846).

2.3.4 Waste Policy

Studies indicate that environmental policy formulation and implementation at local government level experiences constraints and challenges. This may be due to the fact that it is broad and hence the effectiveness of waste policy in particular leaves much to be considered (Thomas, 2010, p. 132). It is thus

important to gauge the contribution of the Municipality in addressing environmental problems which include waste management problems. There is a research gap in relation to reviewing the engagement of municipalities in environmental policy, the value of this engagement and whether there are opportunities to reconfigure the means of engagement to improve environmental outcomes (Thomas, 2010, p. 133). A study undertaken in Benin disclosed constraints pertaining to the formulation and implementation of waste management policies. The lack of coherent policies and incoherent implementation coupled with obvious lack of accountability among the authorities involved in waste management was found to be the cause of poor waste management (Igbinomwanhia Dennis, n.d., p. 200). As well as having coherent policies in place, the flexible organizational structure and effective tools add a positive spin in attaining positive environmental outcomes (Geng, Tsuyoshi & Chen, 2010, p. 1000).

One of the main issues identified as impeding waste management being undertaken in accordance with Agenda 21 was found to be the empowerment of municipalities to deal with such a complex and comprehensive legal instrument for environmental, economic and social interests (Chaves, dos Santos & Rocha, 2014, p. 27). Environmental sustainability in municipal solid waste management can, however, be achieved with coherent policy development and implementation (Hussain, Chaudhry & Batool, 2014, p. 524)

2.3.5 Solid Waste Management Assessment Methods

Given the constraints and challenges facing waste management policy formulation and implementation, it is necessary that an appropriate method of assessment is chosen. Any investigation of waste management systems requires an individual assessment methodology to yield reliable data and results for decision-making (Allesch & Brunner, 2014, p. 468). Correct assessment methods further assist in identification of municipal solid waste

management strategy drivers and their influence. This is an important step in understanding the future direction of a sustainable solid waste management plan (Contreras, Ishii, Aramaki, Hanaki & Connors, 2010, p. 77).

2.4 LEADERSHIP AND GOVERNANCE THEORIES

2.4.1 Leadership theories

When investigating the status of leadership theory integration through inductive approach, Meuser, et al., (2016) concludes by identifying six leadership approaches as focal theory. Theories are useful to researchers as they provide a framework for organizing existing knowledge and offer tentative explanations for the processes through which constructs are related (Kaplan, 1964 in Meuser, et al., 2016). The first leadership approach identified was transformational leadership. Bass (1998) in Meuser, et al., (2016) states that the insights offered by transformational theory include the reciprocity inherent in the leader, leader-follower relationship, and leaders that share a vision of a mutually desirable future which serves as the primary source of idealized influence. General description given to the transformational leadership phenomenon was based on four conceptions which are idealized influence, inspirational motivation, intellectual stimulation and individualized consideration.

Two supporting theories found to be linked to transformational theory were transactional leadership that normally served as a foundation and trait theory and a cluster of leader and follower cognitions with leadership teams (Meuser, 2016). Transactional leaders influence their followers on the basis of mutual exchanges which follow the employment contract, that is, rewards and punishments are delivered contingent upon behaviours realizing work-related goals whereas transformational leaders attempt to satisfy the higher order needs of their followers, are visionary in nature and encourage their

followers to perform to the maximum potential (Burns, 1978 in Martin & Epitropika, 2001).

The second approach was that of charismatic leadership. Pennington (2011) views charismatic leadership as the model whereby followers identify with their leader and the fundamental basis of leadership is primarily authentic behaviour and values rather than possession of extraordinary capacity for foresight. Charismatic leadership offers an insight to explore the role of contextual influences as is apparent from the connections with contextual theories of leadership (Meuser, 2016).

Third was strategic leadership described as the leader's ability to anticipate, envision, maintain flexibility, think strategically and work with others to initiate change (Ireland & Hitt, 2005 in Meuser, 2016). Strategic leadership integrates information processing and decision-making whereby leaders are responding, adapting and interacting more with organisational units. Top leaders play a significant role in key decision-making on behalf of the organisation. Strategic leadership approach gives guidance on how strategic leaders behave, exercise influence and reward and punish, distribute and/or share leadership activities or responsibilities and think about organisational and environmental challenges (Meuser, 2016).

The fourth one was leadership and diversity theory. This approach is based on the globalization of modern organization that brings demographical diversity which includes underrepresentation of women and ethnic minorities. It further examines factors that lead to obstruction of women's leadership and ethnic minorities, racial differences and sexual orientation and also explores why, when and how women are perceived as leaders (Meuser, 2016).

The fifth approach is that of participative/shared/delegation/empowerment leadership theories as described by Carson, Tesluk and Marrone (2007)

and Pearce and Conger (2002) in Meuser (2016) as a form of leadership that is distributed and shared amongst multiple participating individuals rather than being produced by a single individual. It provides team members and executive decision-makers with greater access to the social capital and material resources needed to adapt their strategies to changing contexts, thereby enabling greater organisational flexibility and performance (Devine, Clayton, Philips, Dunford & Melner, 1999; Hackman, 1992 in Meuser, 2016).

The last and the sixth approach was the trait approach to leadership which defined the set of personality traits which predisposed one to successful leadership. Schyns and Schilling (2011), when investigating which effective and ineffective characteristics are ascribed to leaders in general, defines implicit leadership (ILT) theory as a cognitive theory of leadership developed by Robert Lord and colleagues based on the idea that individuals create cognitive representations of the world and use these preconceived notions to interpret their surroundings and control their behaviour. The study results suggested that implicit leadership theories were composed of both effective and ineffective attributes. Vance (2009) in Schyns and Schilling (2011) identifies essential traits of contemporary leadership as arrogant, greedy, over controlling, out of touch and clueless.

2.4.2 Governance theories

Abdullah and Valentine (2009) defines corporate governance as a set of processes and structures for controlling and directing the organisation, and which constitutes a set of rules which governs the relationships between management, shareholders and stakeholders. Literature on corporate governance does not provide a precise definition of governance. In their review of literature on the range of theories in corporate governance, Abdullah and Valentine (2009) examines the fundamental theories in corporate governance. It was concluded that a combination of various theories is best to describe effective and good governance practice rather

than theorizing corporate governance. Identified theories address the cause and effect variables such as configuration of board members, board committees, independent directors, the role of top management, and their social relationship rather than its regulatory framework (Abdullah & Valentine, 2009).

The first theory review was agency theory which originated from economy theory. This theory examines the relationship between principals as shareholders and the agent. Agents could be company executives and the management team. Clarke (2004) in Abdullah and Valentine (2009) states that principals delegate the running of the business to the directors or managers who are agents. Shareholders appoint an agent to act and make decisions in the interests of the principal or the shareholder; however, the agent may not necessarily make decisions in the best interests of the shareholders (Padilla, 2000 in Abdullah & Valentine, 2009).

The next theory that was examined was the stewardship theory. Devis, Schoorman and Donaldson (1997) in Abdullah and Valentine (2009) defines this theory as being where the steward protects and maximises shareholder wealth through performance because by so doing the steward's ability functions are maximised. This theory further recognises the importance of structure that empowers the steward and offers maximum autonomy built on trust (Donaldson & Davis, 1991 in Abdullah & Valentine, 2009).

Stakeholder theory is defined as any group or individuals who can affect or who could be affected by the achievement of the organisation's objectives. Stakeholder theorists suggest that managers in the organisations have a network of relationship to serve like employees and business partners. Freeman (1984) in Abdullah and Valentine (2009) contends that the network of relationships with many groups can affect decision-making processes as stakeholder theory is more concerned with the nature of the relationship in terms of both processes and outcomes for the firm and its stakeholders.

Resource dependency theory concentrates on the role of the board of directors in providing access to resources required by the company. Hillman, Canella and Paetzold (2000) in Abdullah and Valentine (2009) contends that resource dependency theory focuses on the role that directors play in providing and securing essential resources for an organisation through their connections to the external environment. Finally, the transaction cost theory views the firm as an organisation comprising people with different views and objectives.

2.5 CONCEPTUAL FRAMEWORK

2.5.1 Waste governance and regulation

There are two main concepts that inform the conceptual framework of this study, namely regulation and governance. Dijk and Oduro-Kwarteng (2007) defines regulation as sustained and focused control exercised by the public agency over the activities valued by a community. Fukuyama (2013) defines governance as government's ability to make and enforce rules and to deliver services regardless of whether the government is democratic or not. The public agency studied was the City of Johannesburg Metropolitan Municipality (CoJ) which is mandated by the South African Constitution to provide waste management services for its citizens. Waste management services is the activity that is valued by CoJ citizens and for which they pay. The objective of the study was to examine to what extent the waste regulation framework in the CoJ is implemented in a focused and sustained manner.

The ability of the CoJ to implement waste management governance in addressing waste issues was analysed. The analysis included the selected institutional arrangements of the CoJ to deliver waste management services. Agumuthi, Khidzir and Humid (2009) identifies four drivers of

sustainable waste management and the institutional driver was one of them. Institutional drivers encourage knowledge or evidence-based policies and strategies, given the proximity between legislators, business and research (Agumuthi, et al., 2009, p. 631). Abas and Wee (2015) states that sustainable solid waste management reflects the effectiveness of solid waste management in relation to policy, system and institution.

As suggested by Habitat World Forum (UN, 2001), the cleanliness of the city and the effectiveness of its solid waste management system may be used as a proxy indicator of good governance. Oteng-Ababio, et al., (2013) supports the position of the United Nations/Habitat World Forum which suggests that in Africa, as in other world cities, solid waste management is a local government function and proper handling of this function is taken as an indicator of the success of urban reform. When emphasizing the importance of good governance Wilson (2007) observes that the United Kingdom's Department for International Development has made a case for using the state of waste management in a city as an indicator to monitor the success of good governance programmes (Whiteman, et al., 2001). Where waste management is working well it is likely that the city has also tackled underlying issues relating to management structures, contracting procedures, labour practices, accounting, cost recovery and extent of corruption (Wilson, 2007, p. 203).

Different authors have written about waste management challenges and constraints faced by cities locally and abroad. Newell, Pattberg and Schroeder (2012), when looking at multi-actor governance and the environment, concludes that traditionally modes of state-based regulation have come to be seen as limited in their reach, effectiveness, authority and legitimacy. Manga, Forton and Read (2007) emphasizes that the extensive statutory instruments and regulations related to waste management are often either incomplete or not enforced. From the literature that was reviewed, the limited in-depth description of governance and regulation at

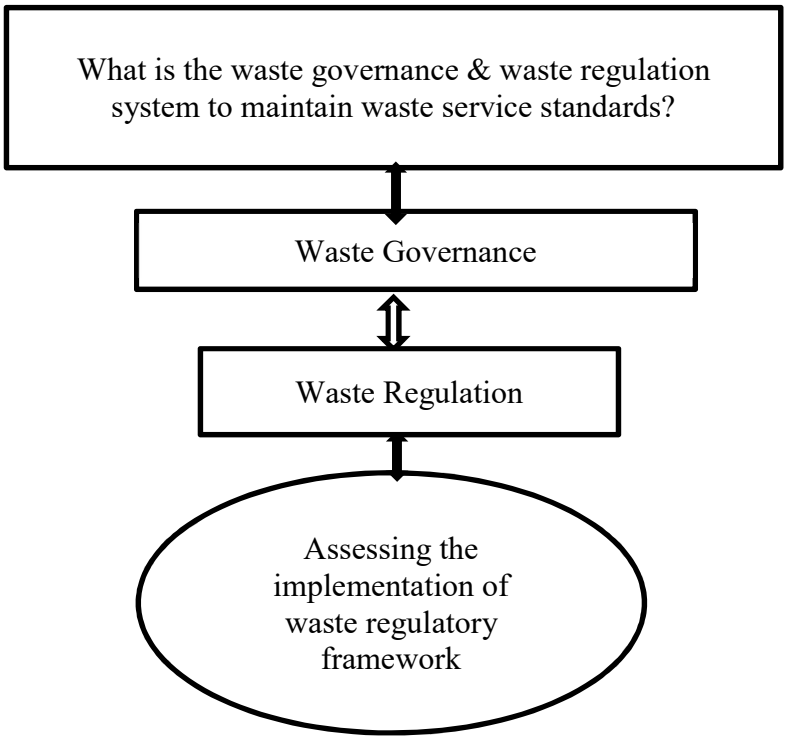
cities or local government level was observed. The need to analyse and evaluate the governance and regulation framework of waste management and further examine the views and experiences of the key stakeholders was then identified.

In evaluating the quality of waste governance within the CoJ, the Fukuyama approach was adopted. Fukuyama (2013) distinguishes four broad approaches to evaluating quality of governance; that is, procedural measures, capacity measures, output measures, and measures of bureaucratic autonomy. Procedural measures look at the process followed in acquiring technocratic capacity. It is further concerned with how recruitment and promotion of employees is done (Fukuyama, 2013, p. 7). On the other hand, capacity measures are concerned with the technocratic capacity of government officials. This is a critical measure of capacity that focuses on level of education and professionalization of government officials. Fukuyama (2013) observes that “in modern organisations highly educated professionals are trusted with a much higher degree of discretion because it is assumed or hoped that they will be guided by internal norms in cases where their behaviour cannot be monitored from the outside” (Fukuyama, 2015, p.8).

The output measures the final products of development intervention. In this context, waste regulatory strategic goals and objectives were analysed (Fukuyama, 2015, p.8). This was then compared with the actual results achieved after the implementation process. Measures of bureaucratic autonomy assisted in looking at what mandates were given to each actor or stakeholder in the whole waste regulatory framework regime. Each actor had a responsible mandate given by a political principal to act on. It was important to examine these mandates as to whether there were any conflicting ones and to what extent that was impeding waste governance.

Fukuyama's approaches were adopted together with the issues-driven analytical framework to evaluate the waste management policy drivers. Abas and Wee (2015) observes that the issue of ineffectiveness of solid waste management policy implementation occurs in most developing countries due to several factors. These factors include poor governance on the ground, lack of commitment among stakeholders, ineffective policy monitoring and co-ordination and neglected social dimension in the policy development (Abas & Wee, 2015, p.2). While adopting Fukuyama's approaches the four factors that influence governance practice in policy implementation assisted in further understanding waste governance in CoJ. The factors that influence governance practice involve clarity of policy context, stakeholder competency, resource allocations and stakeholder management system (Abas & Wee, 2015). Drawing on both scholars one deduces that the pivotal reference point in evaluating waste governance and regulation is clear.

Figure 1: Conceptual framework of this study



2.6 RATIONALE FOR THE THEORY

Welmer, Kruger and Mitchell (2005) defines theory as a statement or collection of statements that specify the relationships between variables with a view to explaining phenomena such as human behaviour in some or other population. In agreement with Welmer, et al., (2005), Babbie (2014) explains that theories are systematic sets of interrelated statements intended to explain some aspects of social life, and provide systematic explanation for observations that relate to a particular aspect of life.

Theories explain observations by means of concepts which are the basic building blocks of theory, as they are abstract elements representing classes of phenomena within the field of study (Babbie, 2014). Welmer, et al. (2005) shares the same view and states that concepts are building blocks of any theoretical model and are the foundation of communication; without a set of agreed concepts meaningful communication is impossible. According to Sayer (1991) concepts identify and describe phenomena and therefore are the starting point of theorising. A cluster of concepts builds the sentences of theory. Theory as a conceptual framework refers to the fact that it provides researchers with a framework by specifying key concepts that enable researchers to reflect on essential characteristics of the phenomena they study. The relationship between theory and research is reciprocal, empirical studies are based on theory, and in turn theories are based on empirical studies (Sayer, 1999).

Social theories are constructed through two routes, which are inductive and deductive approaches. Deductive theory construction picks a topic of interest and attempts to understand what is already known about the topic by learning what other scholars have said. It aims to identify and specify major concepts and variables, and the relationship between those variables. The role of research is then to test each theory to determine whether what makes sense actually occurs in practice (Babbie, 2014). Chafetz (1978)

states that deduction involves the process of testing general ideas or theory by finding out whether abstract logical relationships apply to specific concrete context, and during this process general ideas are linked to empirical evidence.

The second method of constructing theory is the inductive approach. Induction involves using specific and concrete observations to develop abstract logical relationships between phenomena, and it implies the process of building theory. In this case, the researcher develops new concepts and specifies the relationships between them on the basis of evidence collected (Dooley, 1990; Regin, 1994). Babbie (2014) emphasizes that in inductive theory construction the social scientist begins by constructing theory through the inductive method by first observing aspects of social life and then seeking to discover patterns that may point to universal principles, in this case theory that emerges from the examination of data.

Neuman (2011) suggests that theory is important to social research because it provides background and rationale for research that is being conducted and also provides a framework within which social phenomena can be understood and research findings can be interpreted. It is often referred to as an explanation of observed regularities. May (1993) agrees that the idea of theory or ability to interpret and understand the findings of research within a conceptual framework which makes sense of the data, is the mark of a discipline whose aim is the systematic study of particular phenomena. Neuman (2011) adds that theory helps to focus on a particular topic of study so that the research outcome is accessible and useful.

2.7 CONCLUSION

The literature reviewed presented different theories and concepts that formed the basis for an approach to the management of waste, and waste

governance in particular. These theories included the multi-actor environmental governance, integrated solid waste management, integrated sustainable waste management, waste policy and solid waste management assessment methods. A conceptual framework that guided and gave focus to this study was waste governance and regulation. Both theoretical and conceptual frameworks provide in-depth understanding of waste management systems and further assisted in identifying the knowledge gap.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 INTRODUCTION

In this chapter the researcher firstly discusses two approaches to research in section 3.2 where each study approach is explained. The research design chosen for this study is explained in section 3.3, articulating the rationale behind the choice of the design and how it will enhance the research process. In section 3.4 data collection methods and techniques are discussed, including data sources and sampling strategy. How data will be presented and analysed is dealt with in sections 3.5 and 3.6 respectively. Reliability and validity is presented in section 3.7. The two final sections provide information on the limitations of the study and ethical considerations.

3.2 APPROACHES TO RESEARCH

3.2.1 Quantitative study approach

Mouton and Marais (1989) defines “quantitative approach” as being “the approach used by researchers in the social sciences that is more formalised in nature as well as explicitly controlled, with a more carefully defined scope, and that is relatively close to the approach used by researchers in the natural sciences”. Quantitative research is thus a formal, objective and systematic process in which numerical data are used to obtain information about the phenomena under investigation. The philosophical origin of quantitative approach is that of logical positivism. Positivist social science emphasizes the identification of causal laws, careful empirical observations and value-free research (Neuman, 2006). Quantitative approach incorporates the practices and norms of the natural scientific model and of

positivism in particular, and embodies a view of social reality as an external objective reality (Bryman, 2012).

The focus of the quantitative approach is concise and objective. It has an objectivist conception of social reality (Babbie, 2014). Neuman (2006) concurs, stating that positivists adopt an essentialist/objectivist orientation to reality. The basis of knowledge is that of cause-effect relationship and prediction about social reality. This method is used to describe variables, determine cause-effect relationships between variables and examine relationships amongst these variables (Neser, Joubert & Sonnekus, 1995). The reasoning takes the logical and deductive approach. Quantitative study employs a logic that is systematic and follows a linear research path, which is research that proceeds in a clear, logical, step-by-step straight line. The deductive approach to the relationship between theory and research places the emphasis on the testing of theories (Bryman, 2012).

The theoretical focus in quantitative research is to test theory and seek to control phenomena. The hypothesis is tested in order to answer the research question or to find empirical support for a theory (Wegner, et al., 2012). In this method of enquiry hypothesis is deduced from the theory and is tested (Bryman, 2012). The researcher begins with preconceived ideas about how concepts are interrelated and the conceptualisation of concepts that can be operationalised through measuring instruments (Neser, et al., 1995). He/she does not participate in events under investigation and is most likely to collect data from a real distance. The researcher employs data collection techniques such as structured questionnaires and schedules. Data analysis techniques vary from simple cross-tabulation of the data to complex analysis techniques (Neser, et al., 1995).

Research design is standardised and replicable. The research design that involves quantitative data can be the true experimental design, pre-experimental design or quasi-experimental design. True experimental

designs are those research studies in which the researcher manipulates the treatment condition, that is, the researcher decides who receives which treatment. There are normally two treatment conditions, experimental group and control group, which are compared in terms of the outcome or response to the treatment or no treatment. The second characteristic of the true experimental design is random assignment of the subjects or sampling units to the treatment conditions or groups. Pre-experimental design may or may not involve manipulation of treatment conditions but does not include randomisation. This is because in this design there is only one research group and subjects are not assigned on a random basis. Quasi-experimental designs resemble true experimental design in that the researcher aims to establish cause-effect relationship and does not involve randomisation.

Quantitative data collection methods are systematically used in a standardized manner, entailing the collection of numerical data, and exhibiting a view of the relationship between theory and research (Babbie, 2014). Quantitative research can be construed as a research strategy that emphasizes quantification in the collection and analysis of data (Bryman, 2012). Quantitative research methods do not involve the investigation of processes but emphasise the measurement and analysis of causal relationships between variables within a value-free context. The purpose of quantitative research is to evaluate objective data consisting of numbers. Quantitative researchers use a process of analysis that is based on complex structured methods to confirm or disprove hypotheses, and flexibility is limited to avoid any form of bias in presenting the results. The researcher deals with abstraction of reality and understand the facts of research investigation from an outsiders' view (Welmer, et al., 2005).

3.2.2 Qualitative study approach

Mouton and Marais (1989) defines qualitative approach as being the approach in which the procedures are formalised and explicated in a more flexible manner, but in which the scope is less defined in nature and in which the researcher does his or her investigation in a more philosophical manner. According to Denzin and Lincoln (1994, p.4), “the word qualitative implies an emphasis on processes and meanings that are not rigorously examined or measured in terms of quantity, amount, intensity or frequency.” Strauss and Corbin (1998) concurs that qualitative research means any type of research that produces findings not arrived at by statistical procedures or other means of quantification.

Wagner, et al., (2012) sees qualitative research as being concerned with understanding the processes which include social and cultural contexts that shape types of behavioural patterns. The philosophical origin of qualitative study includes interpretivism/constructivism. This paradigm addresses understanding the world as others experience it. Regarding ontology, interpretivists believe that reality is socially constructed, and further believe that knowledge is subjective because it is socially constructed and depends on the mind (Wagner, et al., 2012). Interpretive social science emphasizes meaningful social action, with socially constructed meaning a value relativism (Neuman, 2006).

Qualitative research can be construed as a research strategy that usually emphasizes words rather than quantification in the collection and analysis of data. It predominantly emphasizes an inductive approach to the relationship between theory and research in which the emphasis is placed on the generation of theories and emphasis is placed on the ways in which individuals interpret their social world. It thus embodies a view of social reality as a constantly shifting emergent property of individual creation (Bryman, 2012). The researcher strives to create a coherent story as it is

seen through the eyes of those who are part of the story, to understand and represent their experiences and actions as they encounter, engage with and live through situations. The greatest strength of the qualitative approach is the richness and depth of explorations and descriptions of data. The researcher becomes the instrument through which the data are collected, analysed and interpreted.

Wagner, et al., (2012) discusses different qualitative research designs, the first one being the ethnography. Ethnography focusses on the study of culture and the "purpose of the ethnographic research is to describe and interpret cultural behaviour" (Wagner, et al., 2012, p. 127). The second qualitative design discussed by Wagner, et al., (2012) is action research which is also known as participatory action research. It involves stakeholders who have interest in the outcome of the research. Another research design that falls under qualitative approach is phenomenology. Phenomenological studies focus on the meaning that certain lived experiences hold for participants and which simply describe a person's experience (Wagner, et al., 2012). Qualitative designs therefore focus on fostering a relationship of trust and empathy between the researcher and the research subjects. Qualitative researchers tend to develop their own research designs or strategies of inquiry rather than rely on those already developed by others.

Qualitative research studies generally rely on three basic data gathering techniques; that is, observations, interview and document analysis. Most qualitative studies employ the combination of data gathering techniques, as this enables researchers to triangulate data, thereby increasing the trustworthiness of the study (Wagner, et al., 2012). The first technique is interviews which are two-way conversation and a purposive interaction in which the interviewer asks the participant questions in order to collect data about the ideas, experiences, beliefs, views, opinions and behaviours of the participants. It is a valuable source of information aimed at obtaining rich

descriptive data that helps to see the world through the eyes of the participants. According to Babbie (2014), qualitative interview encapsulates both unstructured and semi-structured interview, emphasis on greater generality in the formulation of initial research ideas and on the interviewees' own perspective, interest in the interviewee's point of view and tendency to be flexible responding to the direction in which interviewees undertake the interview while adjusting the emphasis in the research as a result of significant issues that emerge in the course of the interview. The researcher follows the interview guide and adheres to the questioning strategy as formulated.

The second data collection technique is the focus group interview, in which the discussion is focused on a specific topic while the researcher encourages debate, and group dynamics then become a critical dimension to be analysed as part of generated data (Kruger, 1998; Puchta & Potter in Wagner, et al., 2012). The other technique is observation and document analysis.

Bogdan and Bilken (1982, p. 145) defines qualitative data analysis as "working with data [which are textual, non-numerical and unstructured], organising it, breaking it into meaningful units, synthesising it, searching for patterns, discovering what is important and what is to be learned, and deciding what to tell others". Leedy (1997) refers to McMillan and Schumacher who are of the view that qualitative data analysis is mainly an inductive process of organising data into categories or themes and identifying patterns among these. Babbie (2007) and Corbin and Strauss (2008) concur with the aforementioned definitions and refer to qualitative analysis as a non-numerical process of examining and interpreting data in order to elicit meaning, gain understanding and develop empirical knowledge. Elaborating on the purpose of qualitative data analysis, Tutty, Rothery and Grinnell (1996) states that qualitative data analysis is all about the "taking apart" or de-contextualising, sifting and sorting the masses of

information acquired during the process of data collection, and organising or re-contextualising it in such a way that the themes and/or categories and interpretations that emerge from this process address the research problem(s) and the ensuing question(s) posed at the outset of the research.

Streubert, Speziale and Carpenter (2007) notes that in qualitative research the process of data analysis commences when the process of data collection begins. Ezzy (2002) suggests that many texts on qualitative data analysis begin their discussion with what to do after data have been collected. He cautions that if data analysis only begins after the data have been collected, researchers will have missed many valuable opportunities that can be taken only at the same time as they are collecting their data. Creswell (1994: 2009) is in support of the idea that data analysis will be conducted as an activity concurrently with data collection, data interpretation and narrative report writing. In most qualitative research studies, data analysis and interpretation are closely interwoven and both are enmeshed with data collection as well (Leedy & Ormrod 2005). Tutty, et al. (1996) suggests that researchers should establish a plan to analyse the qualitative data. Creswell (1994) echoes this and states that a researcher should identify the coding procedure to be used to reduce the information to themes or categories.

Babbie (2014) states that the key process in the analysis of qualitative social research data is coding, which is classifying or categorizing individual pieces of data. The aim of data analysis is the discovery of patterns among the data, patterns that point to theoretical understandings of social life. Bryman (2012) explains coding as the process which entails reviewing transcripts or field notes and giving labels to component parts that seem to be of potential theoretical significance or that appear to be particularly salient within the social worlds of those being studied. Neuman (2011) adds that coding in qualitative research organizes raw data into conceptual categories and creates themes or concepts; qualitative coding is an integral

part of data analysis. Wagner, et al., (2012) defines thematic analysis as a general approach to analysing qualitative data that involves identifying themes or patterns in data.

3.3 RESEARCH DESIGN

The approach to the study was a qualitative enquiry because the researcher was interested in understanding the study subject in its context and giving its description. Wagner, et al., (2012) views qualitative research as being concerned with understanding the processes and the social and cultural contexts which shape various behavioural patterns.

The philosophical underpinning of this study was the interpretivism paradigm. Neuman (2006) defines the interpretive approach as the systematic analysis of socially meaningful action through the direct detailed observation of people in natural settings in order to arrive at understanding and interpretation of how people create and maintain their social worlds. Wagner, Kawulich and Garner (2012) shares this view when defining this paradigm as the concept that addresses understanding of the world as others experience it.

The intention was to obtain a deep understanding of waste regulation as one of the waste governance modes. It was assumed that City of Johannesburg officials involved in waste regulation have a socially constructed reality with regard to waste regulation implementation. Due to their experiences these officials have knowledge about how waste is governed in the City of Johannesburg and have insight into the waste regulatory framework. It was the view of the researcher that respondents through their experiences have developed particular knowledge and understanding of the current processes and practices of waste regulation. The scientific reasoning was inductive as data was reviewed and analysed during the data collection process.

The researcher was the instrument through which data was collected, analysed and interpreted. The relativism was adopted since the assumption was that respondents had values that they uphold when developing and implementing waste policies, and these values were recognized and made explicit (Neuman, 2006). The opinion held was that waste policy makers and waste regulation enforcers incorporate their values in the regulation system. Policy makers that formulate the waste management by-laws have their particular value system, as do the enforcers.

The enforcement of waste regulation in the City was viewed as having multiple socially constructed realities. This was due to the fact that there are enforcement agencies and policy makers in the waste regulation sector. The explanations were verified using the postulate of adequacy with people being studied. The explanation by enforcement agencies and policy makers as to how they understand waste regulation and waste governance was interpreted and understood in their own context. The practical orientation of the participants was important as it formed the basis of their knowledge of the phenomenon (Neuman, 2006).

The study approach that was chose is qualitative case study. Baxter and Jack (2008) defines qualitative case study as an approach to research that facilitates exploration of a phenomenon within its context using a variety of data sources that allows for multiple facets of a phenomenon to be revealed and understood. One of the advantages of this approach is the close collaboration between the researcher and the participants. The case that was analysed is the CoJ and the focus was the departments responsible for waste governance and regulation. The unit of analysis was officials from these departments. The study explored and described the implementation of the waste regulatory framework in CoJ during the 2013-14 and 2014-15 financial years.

This approach fitted well with the study as the researcher wanted to answer the questions in relation to how the waste regulatory framework is implemented. Further to this question the study wanted to explore and describe the waste governance that supports the implementation of the waste regulation.

3.4 DATA COLLECTION

Data collection methods included interviewing officials involved in waste regulation and governance, observing their non-verbal messages during the interviews, and document analysis. Documents such as reports on waste policy implementation, reports on waste contravention notices issued and waste offender case reports from municipal courts were scrutinised. The use of multiple data sources enhanced data credibility. Semi-structured interviews were the method used to collect data. The semi-structured interview was preferred because it gave the researcher a chance to probe and explore deeper and to corroborate data emerging from other data sources (Wagner, et al., 2012). Semi-structured interviews are normally short and were suitable because of time and respondent availability constraints.

The interviews were done on an individual basis and participants were interviewed from their own working environments, that is, the office or work station. Permission was obtained from all participants to digitally record the interviews. The interviews were transcribed and emerging themes coded and categorised prior to being analysed. The transcriptions were reviewed and a process of coding was followed (Bryman, 2012, p. 568). Further scrutiny and verification of data was done by means of additional interviews with relevant officials. Ongoing comparison was made between the concepts that emerged during interviews and the strategic goals of the waste regulatory framework and waste governance.

3.4.1 Primary data

Primary data is data that was collected by the researcher for the first time and for the purpose of this study only. Primary data was collected from units of analysis that included different departments within CoJ. The first department was Environment and Infrastructure Services which is responsible for waste management and regulation. The formulation of waste by-laws and waste policy is done by this department. A further source of primary data was officials from the JMPD which are mandated to enforce the waste by-laws through their waste by-laws enforcement officers. Municipal courts deal with waste offender cases that are brought to court, and primary data was also collected from magistrates and prosecutors. Primary data was collected from Pikitup as the CoJ company responsible for waste services delivery.

3.4.2 Secondary data

Secondary data refers to the already available data which will be useful to the study but was not initially collected by the researcher. These data were gathered from documents that were analysed and included annual business plans, and annual reports for the 2013-14 and 2014-15 financial years as prepared by Pikitup, the Environment and Infrastructure Services department and the By-law Management Unit. Records on compliance notices issued to waste offenders, and records on waste offenders that were charged and fined were analysed to obtain waste regulation information. Records were obtained from municipal courts on waste offender cases to gather information on how waste offenders are penalized. Waste management plans were scrutinised that indicate the objectives to be achieved with regard to waste regulation and reflect allocated resources, organisational structures and different actors in the waste management system.

3.4.3 Sampling strategy

The sampling method for this study was a non-probability and purposive sampling type. This method was chosen due to time, budgetary and practical constraints (Wagner, et al., 2012). The researcher's experience in environmental management at local government level influenced the sampling type. The study participants were selected based on the knowledge of their involvement in waste policy and regulation. The unit of analysis was officials directly responsible for waste regulation and governance. The sampling was purposeful so that the respondents that were sampled and the secondary data that was gathered remained relevant. The participants were deemed to have knowledge and information of how waste regulation was developed and implemented. This was a strategically focused study to the respondents as there was a limited budget and timeframe and the availability of the participants was limited. Some participants would have been involved in the process of formulating the by-laws, some in the compliance monitoring, and others in the enforcement. The unit of analysis included the following:

- Officials from Environment and Infrastructure Department. These officials were responsible for the development and implementation of the integrated waste management plan, waste policy, waste programmes and waste management by-laws.
- Officials from Johannesburg Metro Police Department. These officials were responsible for by-law management which includes enforcement, waste contraventions record-keeping and ensuring that waste offenders were prosecuted. Waste contraventions were analysed and captured appropriately in preparation for submission to courts.
- Officials from Pikitup. Pikitup is a municipal owned entity and responsible for the provision of waste management services. Waste operations in terms of delivery waste services to the public

are done here. These officials have experience in waste malpractices and the role waste regulation plays in that regard.

- Officials of municipal courts.

3.5 DATA PRESENTATION

Two approaches were used in writing up the findings of the study. The first approach was to report findings under each theme or category. This was accompanied by linking discussion from respondents' interviews. The graphical presentation of data was also used in the form of graphs and tables (Burnard, Gill, Steward, Treasure & Chadwick, 2008).

3.6 DATA ANALYSIS

The inductive approach was applied in analysing data, especially primary data. This approach was chosen because the researcher wanted to describe the phenomenon and approached the analysis from the data level, then examined the data more broadly. The codes were identified from data and not from preconceived codes from existing literature, researcher views and beliefs, or knowledge of the specific data (Wagner, et al., 2012). Emerging themes and category codes were analysed using thematic analysis. Understanding the meaning of the data by identifying and analysing themes was a technique shared across qualitative data analysis approaches (Wagner, et al., 2012, p. 231). Themes were identified by checking the repetitions, synonyms and colloquial sayings (Bryman, 2012).

Secondary data gathered from documents was analysed using the document analysis approach. Document analysis refers to an integrated and conceptually informed method, process and technique for locating, retrieving and analysing documents for their relevance, significance and meaning (Altheide, 1996 in Wagner, et al., 2012, p. 141). Documents that

were reviewed were regarded as public documents and selected based on relevance to the problem statement.

3.7 VALIDITY AND RELIABILITY

3.7.1 Validity

To ensure trustworthiness, validity was replaced with credibility due to the nature of the study being a qualitative research study. Credibility is consistent with internal validity in the quantitative research enquiry (Bryman, 2012). To ensure credibility, participant validation was the strategy used to ensure validity. The purpose was to verify the researcher understanding of participants (Wagner, et al., 2012). Once information was collected and written up, some respondents were requested to verify the data captured during interviews for validation purposes. This was done to ensure that the perspectives of respondents were captured as respondents articulated them during interviews. The participants were afforded an opportunity to read the draft report and gave their comments to indicate if the content reflected their views accurately.

3.7.2 Reliability

To ensure trustworthiness, the applicability, dependability and confirmability as criteria for trustworthiness were used as a replacement for reliability (Wagner, et al., 2012). The exact steps taken in the research were explained in detail so that the reader can see how findings were derived. Triangulation of data collection methods to establish reliability was employed. This was done by coupling interviews with observing the participants' non-verbal communications, as well as drawing on document analysis. Qualitative research is context-based and the researcher provided a detailed description of the context and findings to allow the reader of the study to determine if the context was similar to other settings. This would fulfil the purpose of applicability. The audit trail of all interview transcripts

was maintained and interview schedules securely retained for dependability assurance purposes (Bryman, 2012). Assurances were given to the interviewees that findings were based on collected data and not the researcher's construction and biases through confirmability (Wagner, et al., 2012).

3.8 LIMITATIONS OF THE STUDY

This study was limited to the CoJ and participants were from this municipality, therefore the results could not be generalized to other municipalities. The timeframe and availability of participants also imposed limitations to the study. The non-probability purposive sampling type was done. The researcher's own experience and knowledge guided the selection of participants and this also limits the study. Initially this study was planned with the intention of examining and analysing waste governance and regulation in the period 2013 to 2015; however, the 2016 period was also included to enrich the trend analysis content.

3.9 ETHICAL CONSIDERATIONS

The study took into account compliance with standard ethical research practices which encompasses all research principles. The participants provided their informed consent to participate. As a formal procedure the participants signed the consent form indicating that: (1) they understood what the study was about; (2) the interview was on a voluntary basis; (3) they had the right to withdraw at any time; and (4) there was a possibility of the study having emotional effects upon them (Wagner, et al., 2012, p. 68). According to Wagner, et al., (2012) deception may take various forms which range from doing research without the interviewee's knowledge to hiding personal feelings even when the respondent was hurt by the experience that he or she is narrating. The researcher undertook to be transparent and sensitive to the respondents.

Participants were assured of confidentiality and anonymity. The participant's personal information that may lead to participants being identified was omitted. Permission was requested from gatekeepers of the CoJ to conduct this study. Gatekeepers were required to approve entry into the identified CoJ departments which are the participants' natural settings (Wagner, et al., 2012). The researcher did not apply any undue coercion when conducting the study and the relationship between the researcher and participant was based only on the study purpose.

3.10 CONCLUSION

Qualitative and quantitative research approaches as discussed in this chapter gave an insight into the characteristics of each. Characteristics include the philosophical origin, the focus of each study, whether it is based on deductive or inductive reasoning, the theoretical focus, whether the approach seeks to test the theory or to develop it, research design, data collection and analysis methods and techniques for each. The research design discussion included the study approach, and how data was going to be collected, analysed and presented in this study. The reliability of the study was ensured by replacing reliability with trustworthiness, as well as applicability, dependability and confirmability. To ensure trustworthiness, validity was replaced with credibility due to the nature of the study being a qualitative one. The limitation of the study alluded to included timeframe and availability of participants.

Ethical considerations were addressed through the participants being given an informed consent form to sign indicating that, (1) they understood what the study was about; (2) the interview was on a voluntary basis; (3) they had a right to withdraw at any time; and (4) there was a possibility of the study having emotional effects upon them.

CHAPTER FOUR
PRESENTATION OF FINDINGS

4.1 INTRODUCTION

This chapter commences with a discussion of the respondents' profile capturing their biographical information and furnishing details on their relationship with the study. Secondly, an explanation of the context statement/situation within which the study occurred is provided. Thirdly, the thematic analysis of the respondents' interviews with members of the civil society and community together with government officials is given. The examination of records for cross-examination purposes is dealt with. Records examined included CoJ waste plans and policy, annual reports and waste legislation applicable at the local government level and the records on the results of implementing this legislation.

4.2 RESPONDENTS' BIOGRAPHICAL PROFILE

The biographical profile of respondents in social sciences research is important as it provides personal characteristics of respondents. Respondents' personal characteristics impact on how respondents express themselves in relation to research questions. For the purpose of this study, personal characteristics that were examined are age, gender, educational level, field of study, occupation, position held and years in those positions. Age was identified as an important variable that indicates the respondent's life experiences in terms of period of employment and assumed level of maturity. Gender was taken as one of the variables for respondent characteristics to be examined.

The examination and analysis of respondent profiles concluded that out of fifteen (15) participants 53% were between the ages of 30 and 39 years.

The oldest respondents fell into the age bracket of 50–59 years representing only 27%. There were slightly more males than females.

Figure 2: Respondents Age Distribution

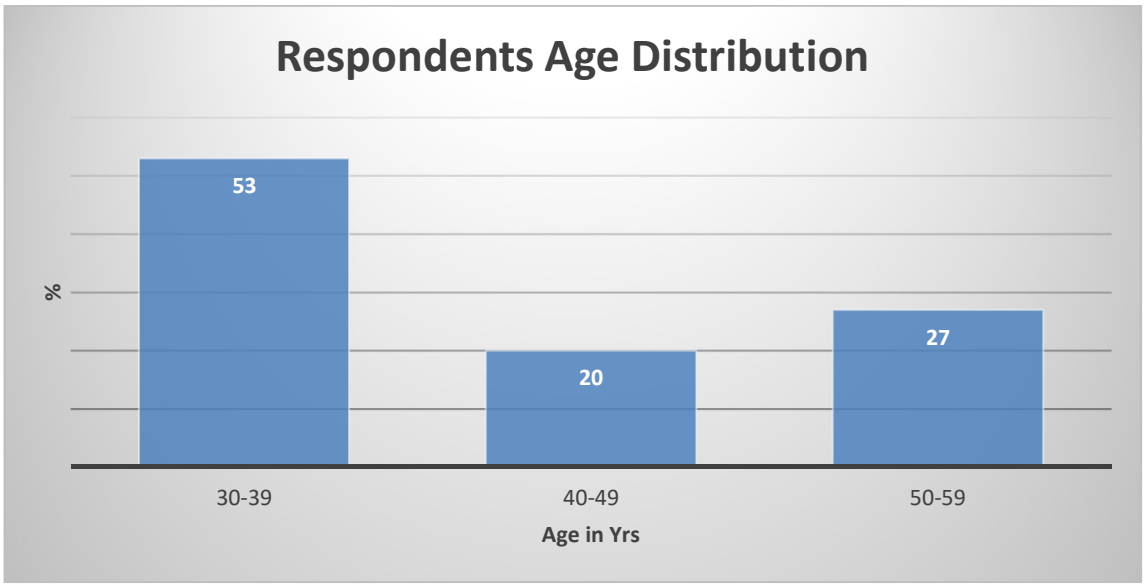
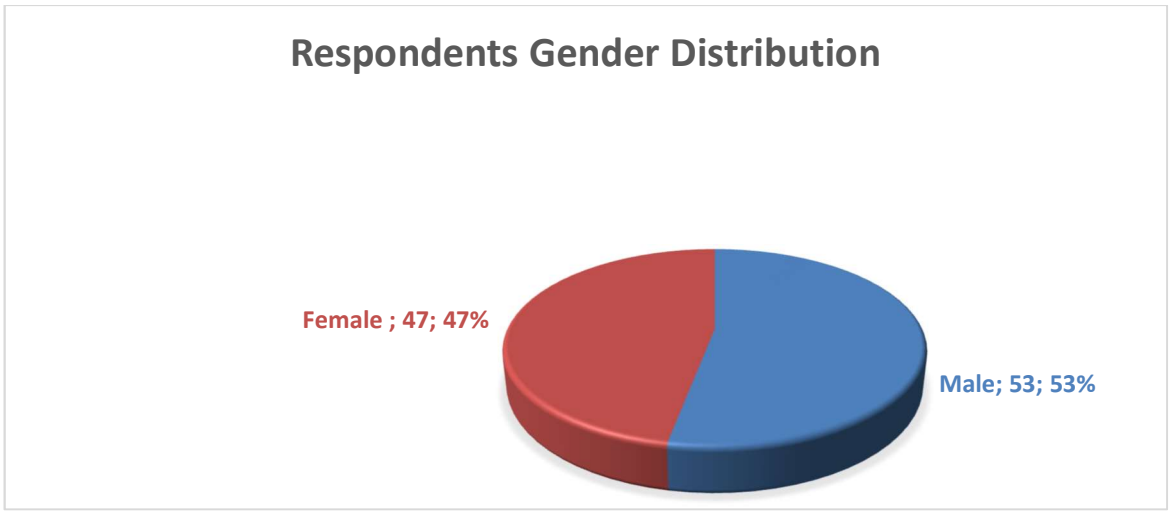


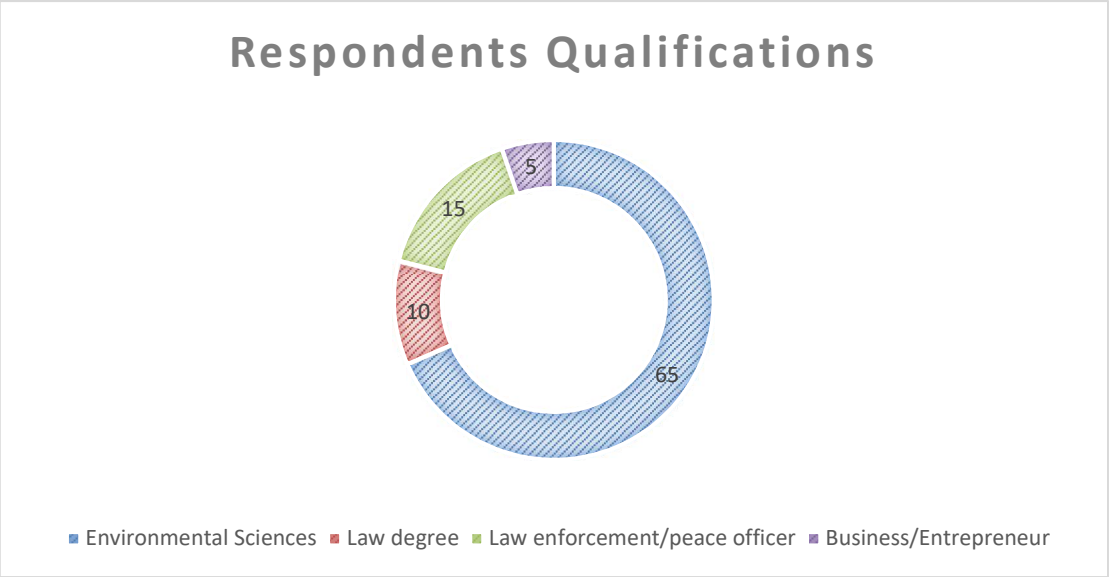
Figure 3: Respondents Gender Distribution



As far as educational level was concerned (see Figure 4) most participants had first degrees and diplomas. It was noted that most of them had qualifications in environmental sciences followed by law enforcement and entrepreneurship qualifications.

Education and the field of study or area of specialisation (Figure 4) was considered as one of the key characteristics that affects the respondent's perspective and understanding of the phenomenon under study. In accordance with this consideration, it was then deemed important to understand educational level and participant's area of specialization, as reflected in Figure 4 below.

Figure 4: Respondents Qualifications



The respondents' occupation and position he/she held was another characteristic which was critical for the purpose of this study (Figures 5 and 6). These were important as they determine area of specialization and level of seniority. Positions held by respondents distinguish the level of authority and decision-making powers the respondent had.

Figure 5: Positions Held

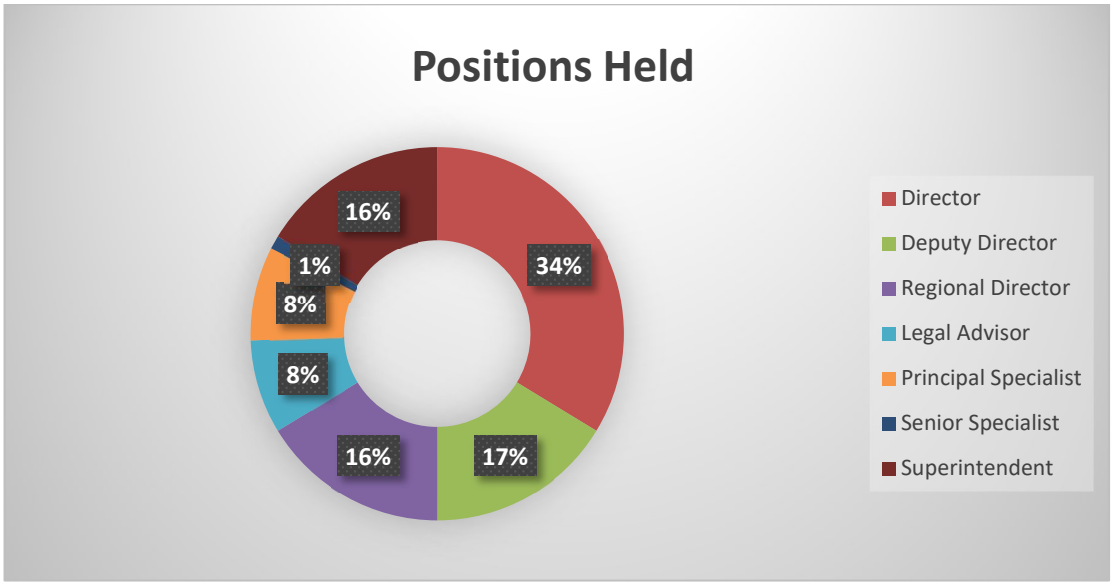
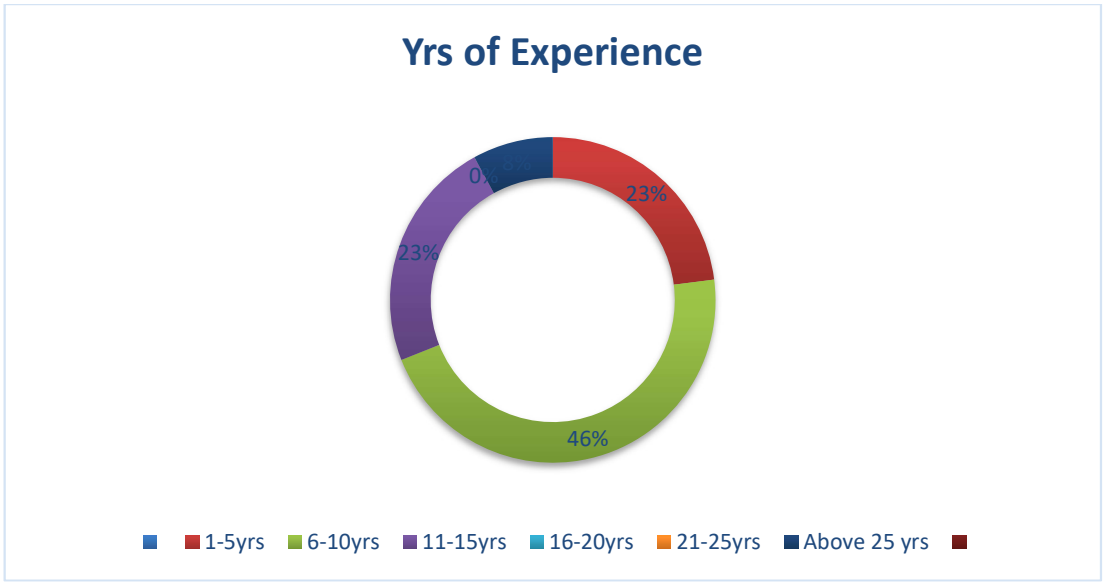


Figure 6: Years of Experience



4.3 THE CONTEXT STATEMENT/SITUATION

Developments in South African waste legislative framework at both national and provincial government level over the past twenty (20) years of the new political dispensation influenced the local government waste legislative framework. Local government authorities including City of Johannesburg Metropolitan Municipality had to formulate waste policies, plans and

regulations aligned to national and provincial ones. To give effect to section 24 of the South African Constitution which is about environmental rights protection, the National Environmental Management: Waste Act, 59 of 2008 (NEMWA) specified local government obligations in terms of setting up local waste standards. These waste standards needed to be reflected in City of Johannesburg waste policy, plans and local level waste legislation.

The development and implementation of CoJ waste policy, associated plans and local level waste regulations had to occur within a well-defined waste governance framework. The assessment and evaluation of the implementation of the waste regulatory framework in CoJ was informed by the interpretation and understanding of two key concepts, that is governance and regulation. Fukuyama (2013) defines governance as government's ability to make and enforce rules and to deliver services regardless of whether the government is democratic or not. On the other hand, Dijk and Oduro-Kwarteng (2007) defines regulation as sustained and focused control exercised by the public agency over the activities valued by a community.

This study then focused on the key actors or stakeholders from CoJ responsible for waste policy, waste planning, waste regulation, waste services delivery (both private and by municipality) and regulated communities. How different actors contributed to the ability of CoJ to formulate and enforce local level waste legislation demonstrated the model of waste governance which existed at CoJ. The assessment also looked at the role played by each actor in the delivery of waste services and how the set standards as required by waste legislation were met.

CoJ residents valued waste management services as they pay for it and constitutionally have a right to access it. Compliance with defined waste standards and their enforcement then become imperative for CoJ residents to feel and experience that their constitutional right was upheld. Waste

regulatory framework implementation at CoJ had an impact on how waste was governed and urban management in general undertaken. As suggested by the UN Habitat World Forum, the cleanliness of the city and the effectiveness of its solid waste management system may be used as a proxy indicator of good governance (United Nations, 2001).

4.4 INTERVIEWS WITH GOVERNMENT OFFICIALS

4.4.1 Primary data collection

The total of ten (12) respondents were government officials which were purposively sampled. These officials were from three (3) City of Johannesburg core departments and one (1) municipal owned entity which was Pikitup. The core departments included Environment and Infrastructure Services department (EISD), Johannesburg Metro Police department (JMPD) and Group Legal and Contracts. Four (4) officials were from EISD, two (2) officials from JMPD and one (1) from Group Legal and Contracts, while three (3) officials from Pikitup participated in the study. The EISD mandate included a) planning, policy and strategy development; b) regulation, including compliance and enforcement; c) monitoring and modelling; d) facilitation and implementation of key strategic projects; e) roll-out of municipal services in an integrated manner through co-ordinated planning; and f) integrated education and awareness. Pikitup was established by the CoJ to provide municipal waste management services to CoJ citizens in accordance with applicable local government legislation. The JMPD was mandated to carry out the function of by-law enforcement in the City with waste management by-laws included. To implement this mandate, JMPD has a By-law Management Unit (BMU). The Department of Legal Services and Contracts provides legal advice to core departments.

These officials were interviewed face-to-face within their own working environments, that is, office or work station at the time suitable to them. Prior to the interview each respondent was informed about the purpose of the

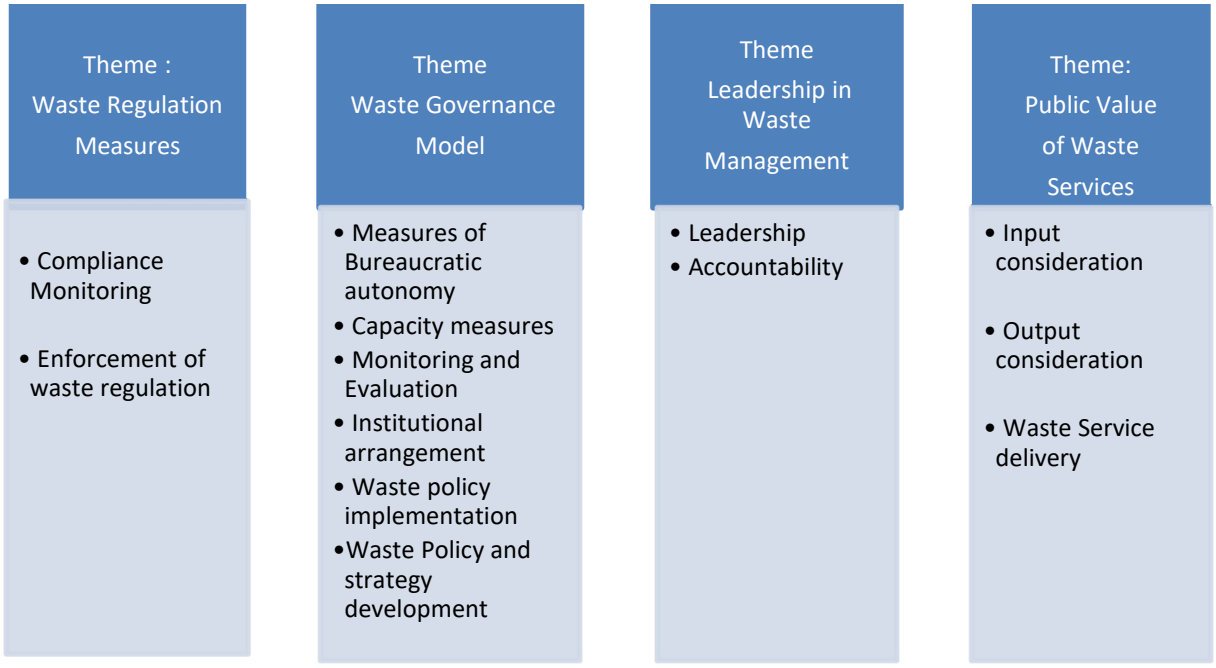
study and thereafter signed the consent form confirming willingness to participate in the interview. The number of the interviewed respondents was dependent on the availability of the respondents and time constraints. In terms of work experience and level of seniority, the respondents varied from senior, middle and junior management with the highest work experience being above twenty-five (25) years and the least experience being five (5) years.

Data collection strategy that was implemented included semi-structured interviews and observation of non-verbal cues of the respondents. The interviews were recorded after permission to record them was granted by respondents. To prepare and organise collected data the verbatim transcription of the interviews was done. The duration of the interviews varied, with the longest one being 60 minutes and the shortest being just above 30 minutes. It was observed that more senior officials took more time during the interviews, which could be due to the extent of information they had. Different types of non-verbal messages were noticed that were aimed at either emphasizing the point or showing dissatisfaction about the issue being discussed.

4.4.2 Themes and related codes

The different codes were identified during the data transcription process. The transcribed data was the instrument used to derive codes. Figure 7 below depicts the codes.

Figure 7: Themes and Identified codes



4.4.3 Thematic analysis

4.4.3.1 Theme 1: Waste Governance Model

i) Measures of bureaucratic autonomy

One of the broad approaches to evaluating quality of governance was measures of bureaucratic autonomy. Measures of bureaucratic autonomy assist in looking at what mandates and obligations were given to each actor or stakeholder (Fukuyama, 2013). This code emanates from the literature in relation to how different stakeholders/actors understood their mandate and obligations which emerged from different codes.

A number of respondents alluded to the point that most of the illegal dumping of waste was caused by inadequate or inaccessible waste services. The stakeholder responsible for ensuring efficient and effective provision is Pikitup. CoJ gave Pikitup a mandate to render that service in accordance with applicable legislation. Another concern was pertaining to the misperception of the role of Pikitup in relation to the control of littering.

JMPD was given the mandate by the CoJ to enforce all by-laws including waste management by-laws. However, there was a concern raised by respondents regarding the expectation of the JMPD to be provided with resources by other departments to fulfil its mandate and meet its obligations. The question was raised as to why JMPD would not mobilize such resources itself to perform its mandate.

EISD as a regulator was expected to have resources necessary to ensure that waste regulations are developed and implemented. There was some uncertainty raised by the respondents as to whether EISD has such resources in view of the existing challenges.

The role of the legal system and municipal courts in supporting prosecution of waste offenders was clearly stated by different respondents.

The political capital as discussed by different respondents attempted to expose how each actor/stakeholder exercises their power to fulfil their assigned mandate and obligation. This relates to power relations and the capacity to mobilise resources and take action.

Respondent A cited the relationship between political power and political willingness to deal with environmental issues and sounded unconvinced that there was sufficient political willingness. Such unwillingness was observed as it filtered down from top to lower levels of management. Due to that situation, the budget was adversely affected. Respondent B was of the view that actors had power but the question was whether there was willingness to deal with pressure points like uncleanliness and illegal dumping.

Respondent C realized that some actors had more power than others and that comprised the function of those who seemed to have less power.

Departments submit their request for budget to Council and based on council resolution the department would get what is allocated and not according to what is desired. The relationship factor as the contributor to accessing what was desired was identified.

It was observed by Respondent E that some actors did not have power solely because of skill and competency around certain legislation. As a result, priority was only given to familiar or particular by-laws.

> So the commitment of resources, time and priority is influenced in my opinion by the lack of skill and competency in those particular by-laws (Respondent E).

Respondent G presented an argument around budget allocation which supports what Respondent C said. HODs and departments had power, they knew what resources they needed to perform, but were subject to approved budget by the Council:

> HoDs don't have much influence on what is eventually allocated to them, someone else takes a decision of how much is going to be allocated irrespective of what was in the wish list (Respondent G).

Supporting what was said by other respondents on budget constraints, Respondent H stated that they were governed by the Municipal Finance Management Act. Every year the allocated budget was insufficient and as a result powers were limited. When attending committees like section 79 they will say budget will be adjusted the following year but this never happened and this indicated that there was no willingness to address a problem.

Respondent M raised the frustration experienced by Pikitup regarding an unfunded mandate and the need to clarify the responsibilities where they had become blurred. The conflict of interest was identified in the sense that by creating entities the City elevated its self to the role of an evaluator and

neglected its own responsibility in the process, and furthermore most likely selected projects that had a good political result.

> As long as you have those governance defects embedded and entrenched in the institution you will never properly serve your constituency residents and ratepayers (Respondent M).

The issue of the attitude of the actors in exercising their powers was raised and the perception was that leadership was divided which filtered through to people.

> They may have capital and other resources and on paper they may have power. But the way human capital doesn't seem to be worried about time, not working together as they should and there was no urgency amongst them (Respondent N, referring to JMPD).

ii) Measures of capacity

Fukuyama (2013) identifies capacity measures as one of the approaches to evaluation of governance, as capacity measures are concerned with the technocratic capacity of the government officials. This is a critical measure of capacity that focuses on level of education and professionalization of government officials. Procedural measures as another approach look at the process followed in acquiring technocratic capacity. It is further concerned with how recruitment and promotion of employees is done. The code capacity measure as emerged in this study was identified in this context. Respondents had different views and observations on the issue of capacity.

In terms of knowledge and skills required to enforce by-laws, Respondent A observed that JMPD officers were positioned at different levels. There were officers who were professional and informed about the by-laws. However, some officers lacked knowledge and experience as well as an environmental management background. It was indicated that it seemed as if JMPD was overwhelmed by what was expected from them and learning

about the basics of environmental management was not a priority. There was a suggestion made to train enforcers internally.

> So if we want to look at by-laws enforcement maybe we should look at it internally as a compliance unit, we train people in terms of air quality, waste and storm water management by-laws and that will be their focus. They can come from JMPD or similar institution, train them and send them out there, think we will see the results, it's just a number that we going to need (Respondent A).

Respondent B observed that the CoJ's competent people on waste management were challenged by institutional alignment and different targets and priorities that were set. Respondent C (EISD) concurs with Respondent B and stated that people who are supposed to implement the by-laws have sufficient knowledge and information to implement but the challenge was with resources and manpower on the ground.

> For example, an EISD director and JMPD director, even if there is something in common, they are working for different priorities (Respondent B, EISD).

The view that there was insufficient knowledge and skills to deal with waste by-laws enforcement emerged strongly. The identified reason was cited as the type of training given to JMPD officers, and the management of officers was identified as one of the factors contributing to such a deficiency. The willingness to share information and collaboration and co-ordination within different law enforcement agencies was said to be limited. Actors had different priorities based on available resources:

> The continuous expectation by JMPD to expect line function to provide resources to them to enforce by-laws caused disintegration because as the owner of by-laws as waste management and regulation unit we don't enforce, we rely on other stakeholders for enforcement but those stakeholders does not necessarily report to

> us and they have their own priorities of which our by-law might not be the priority (Respondent E, EISD).

Respondent G (JMPD) mentioned that officers on the ground lacked experience and that was undermining the system. However, the need to join forces with other stakeholders to conduct campaigns and stop working in silos was emphasized. This was considered necessary so that everyone would have a common understanding of the goals to be achieved.

The level of understanding and knowledge between departments clearly differed. EISD was mentioned as being knowledgeable while JMPD had only a few people who understood waste management especially those on the ground. The need to have a common understanding to enforce by-laws was stated and there was also a willingness to learn from other officers so as to better understand environmental issues (Respondent H).

EISD as the custodian of by-laws and a regulator was responsible for reviewing the implementation and improvement of those by-laws:

> When EISD present to us you get a sense that they know what they are doing, they have enough knowledge, and perhaps the issue would be the implementation more than the conceptualization, creation and promulgation of the by-laws (Respondent K).

> If you are talking intellectual knowledge I think everybody knows a bit but we don't come together and share and come up with a global strategy (Respondent L, Pikitup).

Respondent L further stated that environmental health was well informed but there were still areas of confusion regarding how issues were dealt with. On the matter of illegal dumping occurring on council land, Environmental Health did not know how to address the problem. The Joburg Property Company did not want to take responsibility or assume accountability. A

further challenge was how to enforce by-laws at government institutions in relation to provincial and national government land. It was also felt that the building control authorities were not assuming their responsibilities.

Respondent M did not believe there was a lack of knowledge. People were well aware of what they can and cannot do. The fact of the matter was that there was no enforcement and the respondent did not think that there was the required political will, which allowed ineffective enforcement to continue due to necessary resources not being directed to it.

> I have learnt to be very careful with my assumption, that because there is a lot of illegal dumping that means people involved in waste have no knowledge to deal with waste management. Can't say that, is it a lack of mental capacity, lack of knowledge, lack of training, or because communities don't appreciate the measures that managers establish or measures are not effective (Respondent N, Legal Services & Contracts).

iii) Monitoring and Evaluation

Ineffective policy monitoring and co-ordination was viewed as one of the several factors which contribute to the issue of ineffectiveness of waste policy implementation (Abas & Wee, 2015). Fukuyama (2013) distinguishes four broad approaches to evaluating quality of governance, that is, procedural measures, capacity measures, output measures and measures of bureaucratic autonomy. Both these authors distinguish the importance of policy monitoring and how quality of governance can be evaluated. Monitoring and evaluation was identified as one of the codes within this context. How waste policy and regulation was monitored and evaluated and whether there was an existing system put in place for this purpose remained unclear. However, some respondents shared their experiences.

The system put in place to monitor the implementation of waste policy was not clearly explained even though it is a critical aspect of the process. Data

management on the results of waste by-laws enforcement as shared by most respondents did not appear to be available to most of the respondents. Monitoring and evaluation systems gather important data required to generate critical information for decision-making. In this context, it was mentioned that it was unfortunate that the enforcer was the one who also conducted monitoring and evaluation that led to the poor results always directed at Pikitup. There was a question raised regarding how effective the mechanisms used for monitoring were:

> In order to avoid the poor results the monitoring and evaluation is now directed to Pikitup because the City does its own monitoring and evaluation and is not going to say is at fault (Respondent M).

iv) Institutional arrangements

Agumuthi, Khidzir and Humid (2009) identifies four drivers of sustainable waste management and the institutional driver was one of them. Institutional drivers encourage knowledge or evidence-based policies and strategies given the proximity between legislators, business and research (Agumuthi, et al., 2009, p. 631). Abas and Wee (2015) states that sustainable solid waste management is reflecting the effectiveness of solid waste management in terms of policy, systems and institutions. Institutional arrangements were identified as one of the codes based on the understanding as informed by both authors. Institutions as a driver of the system is linked to policy, systems, processes and procedures, the sharing of power, decision-making, formal structures, leadership and communication links between and amongst actors and stakeholders present or existing for the institutions or departments to conduct their activities effectively and efficiently.

v) Social capital in relation to waste governance

Respondents explained their experiences regarding how they perform their duties. It was clarified that there were different actors having different roles in waste management. Within EISD there was Waste Management and

Regulation Unit. Respondent E confirmed this responsibility when stating the following:

> As the owner of the by-laws as waste management and regulation unit we don't enforce – we rely on other stakeholders for enforcement.

Highlighting the state of the relationship amongst actors, Respondent A explained that "you know what there is no support, there is no working together, and everybody is busy fighting for their jobs. I think people see each other as threats rather than part of a bigger team." This kind of relationship was observed as not only amongst CoJ departments but between CoJ and Gauteng Department of Agriculture and Rural Development (GDARD) and between Department of Environment Affairs and GDARD. This indicates the need for greater efforts to be made to align the various activities.

Respondent B, when referring to social capital, contended that it was not at a good level, and observed that superiors needed to sit together and plan together in order to reach binding arrangements for working together. Respondent C added that there had been some attempts made but generally thought there was no cohesion between the parties.

People tend to work in silos, taking seriously only those targets in their own scorecard or the supervisor's scorecard. It was suggested that the working relationship needed to be documented and have a formalized structure. There should be shared strategic objectives and key performance areas so that all stakeholders have well defined roles and responsibilities.

Respondent E was of the view that there was no mutual understanding and correlation in the by-law enforcement activities and the priorities were not the same. It was felt that it is important to build the relationship through a

memorandum of understanding so that agreement on certain deliverables can be made:

> Waste by-laws from these departments become an add-on and not a key mandate (Respondent E, EISD).

Some departments were able to work together but others did not do this very well. Respondent G noticed that there was a lot of bureaucracy involved. This statement was supported by Respondent H who noted that there was a good working relationship between EISD and JMPD but other departments did not share information with Pikitup or EISD because they felt that it would appear that they are reporting to them. They did not attend meetings which indicated a lack of commitment or lack of understanding of the challenge at hand. On the other hand, Respondent K said that there was a good relationship between the CoJ and the GDARD. In terms of co-operation and knowledge sharing it was thought that this happened amongst major stakeholders. They share a sense of purpose, support each other and understand each other's mandates.

Respondent L agreed that there was a working relationship to a certain extent. However, some people were rigid and prefer to stick to Service Delivery Agreements (SDA), especially the Municipal Owned Entities (MOEs). It was stated that people were protective of their own work and there was a lack of clarity about shared responsibilities. Region C was said to have developed a good working relationship within a platform called the integrated community outreach programme (ICOP). In ICOP some stakeholders were more flexible and willing to do more than required by the SDA. Relationships needed to be improved but mandates were being met. It was suggested that the system be reviewed.

There were indications of silo thinking and internal rivalry amongst departments. The cluster approach was introduced with the aim of

addressing this concern, whereby certain departments will be clustered together to move away from the silo approach.

vi) Waste policy implementation

Lack of co-ordination in policy implementation and incoherent implementation coupled with a lack of accountability contribute to the causes of poor waste management. This is compounded by ineffective policy monitoring and poor co-ordination of policy development which contribute to ineffectiveness of solid waste management policy implementation (Abas & Wee, 2015). According to Hussain, Chaudhry and Batool (2014, p. 524), environmental sustainability in municipal solid waste management can be achieved with coherent policy development and implementation. The lack of coherent policies and ad hoc implementation coupled with obvious lack of accountability among the authorities involved in waste management was found to be the main cause of poor waste management (Igbinomwanhia 2011, p. 2000). The code policy implementation originated from the thinking shared by these authors.

vii) Waste policy and strategy

The lack of coherent policies among the authorities involved in waste management was found to be the cause of poor waste management (Igbinomwanhia, 2011, p. 2000). As well as having coherent policies in place, a flexible organizational structure and effective tools contribute positively to achieving good environmental outcomes (Geng, Tsuyoshi & Chen, 2010, p. 1000). Linked to coherent policies are the institutional drivers that encourage knowledge or evidence-based policies and strategies, given the proximity between legislators, business and research (Agumuthi, et al., 2009, p. 631).

Respondent M raised concerns in relation to his observations based on interaction with EISD and JMPD. Firstly, a clearer delineation of responsibilities was required. This related to the expectation of the JMPD to

be provided with vehicles by Pikitup if by-laws are to be enforced. It appears that the CoJ had expected that the JMPD will undertake work related to waste management by-laws utilising their own budget, whereas the JMPD expected that the City would fund such work.

> In terms of co-operation we have offered to become peace officers, we have made all available information at our disposal to these authorities but that seemingly doesn't have a desired effect.

Furthermore, it was explained that there was no proof that the responsible authority has assessed the magnitude of illegal dumping, budgeted to deal with it and approached the Council with convincing evidence as to why the problem had to be dealt with and requesting an appropriate resource allocation. There was another misconception with regard to officers expecting to be notified by the public before they act, and that they should work proactively.

> The City is a custodian of enforcement which has been a dismal failure, now it has sought to distance itself from that failure by this notional idea that Pikitup must create awareness and must do things to make this problem go away. While statutory and logically and in terms of mandate given, in terms of strategy formulation and regulatory, the responsibility of awareness and enforcement fall within the CoJ. It should stop seeking to devolve that to Pikitup with no resources, it is a dodging of accountability, it is reflective of poor governance and it's so transparent to everybody involved in it that it is almost laughable (Respondent M).

4.4.3.2 Theme 2: Waste Regulation Measures

i) Compliance monitoring

Newell, et al. (2012) identifies the extent to which actors in the multi-actor arrangement can mobilize sanctions in the face of non-compliance as one of the key features that influence the effectiveness of multi-actor

arrangement in environmental governance. Compliance monitoring as one of the identified codes originated from this thinking. Respondents from various CoJ departments shared different views with regard to compliance with waste legislation.

Waste offences are committed and recorded: The poorly controlled and continued existence of illegally dumped waste was one indicator of non-compliance shared by almost all respondents from CoJ departments. When alluding to types of waste offences committed and recorded, respondents cited illegal dumping as the main concern:

> It's mainly illegal dumping of waste, not always building rubble but garden waste as well (Respondent A).

Added to illegal dumping of waste as the main waste offence committed was littering and waste sites that were operated without waste permits:

> Illegal dumping of waste is also associated with operators who operate the sites without waste permit' (Respondent B supported by respondent C who added littering of waste).

Respondent E observed that offences are stipulated in the waste management by-laws but in addition to those mentioned above the stealing of refuse receptacles was also a challenge. Respondent G brought another dimension as to why residents were illegally dumping both household and building rubble. The inadequate service being provided such as insufficient provision of the 240-litre bin and refuse receptacles for builders' waste were cited as the main contributors to illegally dumped waste. Respondent H cited the lack of access to waste services as a cause of dumping waste by residents:

> One cannot specifically say illegal dumping is only done by people using trucks, dumping is done by residents as well because when they wake up the refuse collection truck is gone, they will get

someone to take waste for them and dump it at the nearest open space (Respondent H).

Respondent K expressed a concern about the lack of compliance. Other contributing factors to the lack of cleanliness and excessive littering in the CoJ CBD were mentioned. These included urinating in public, recyclers in town who open waste bins and throw the contents around, homeless people sleeping in the streets who open refuse bins, and hijacked buildings all contribute to the untidiness as occupants of the hijacked buildings do not have proper refuse storage facilities. Furthermore, there were no records maintained of offenders but only a record of offences. Respondent L emphasized that illegal dumping mainly occurred in the outlying areas while in the townships and informal settlements it was domestic waste that was dumped.

> There are recyclers, they just open bins and throw away everything that they don't need. Who is rebuking them? Who punishes them for non-compliance, no-one? If you go to other cities you will never see such a neglect of by-laws (Respondent K).

Respondent M was not aware of any recorded waste offences, and had never seen a schedule of offences and penalties. However, the respondent was aware of the poor effort by the CoJ to police waste offences. The poorly staffed enforcement team was mentioned as having only 22 officers to serve the whole of the CoJ. Respondent N concurred with Respondent M regarding the recording of the offences by citing that the records of such offences was never seen.

ii) Areas where waste offences occurred within CoJ

There was consensus amongst all officials regarding where waste offences took place, who unanimously agreed that it was occurring throughout the City. Respondent A explained that illegal dumping of waste happened throughout the City, mostly in open spaces, next to rivers, parks, pieces of

land along the streets and in all regions. The disposal of domestic waste was most prevalent from high density areas that were under-serviced, while illegal dumping was said to be widespread.

Respondent B supported Respondent A, stating that open areas next to poor households and informal settlements were known to be utilized for illegal dumped waste. Respondent C saw littering as occurring mostly in the CBD where large numbers of people commute and is associated with taxi ranks.

> Illegal dumping is everywhere, all regions especially where there is high development, illegal dumping is mostly associated with builder's rubble with a bit of household waste (Respondent C).

Respondent E added that due to the poor record-keeping and lack of capacity to collect statistics and provide analysis of offences it was difficult to say for certain where such offences occurred:

> I cannot safely say that most of them are happening in these areas and bin theft from these areas or illegal dumping is more prevalent in these regions, it's difficult because we don't really take statistics and do analysis (Respondent E).

The causes of those offences was stated as the lack of by-law enforcement and prosecution in the opinion of Respondent K. It was stated by Respondent L that the landfill site was not far from where people were illegally dumping in Roodepoort and clean builder rubble was taken for free. Respondent L could not understand why people continued dumping waste illegally. It was suggested that people were just lawless. There was an interesting situation shared by Respondent L where residents encouraged illegal dumping of waste next to their living environment:

> In the township areas you know what a challenge is, especially the outer areas, the residents encourage the private waste collection companies to come and dump for a fee – for them it's a source of

> income which makes it hard to eradicate. Residents have agreements with these big companies (Respondent L).

It was revealed that Pikitup mapped illegal dumping spots and did the cleaning up but there was no information regarding the prosecutions from issued citations. Respondent N noted that there was no scientific study conducted to indicate where exactly waste offences were mostly happening; the sentiment was shared by Respondent E, who felt that this happened across the City:

> I wouldn't know but I would imagine that the rich and the poor people are all guilty of illegal waste disposal (Respondent N).

iii) Enforcement of waste regulation

Enforcement as a code originated from Masood, et al., (2014) and Cohen and Din (2013), amongst others. These authors shared the necessity for regulation enforcement in improving performance, planning and institutional structures. Cohen and Din (2013) reviews the key elements for best performance and profitability of municipal solid waste management in low income cities in Africa and identifies the lack of mandatory and environmental regulations and enforcement of these regulations as one of the features that define municipal solid waste management. Weaknesses in both planning and institutional structure become worse because of the lack of enforcement of regulations (Masood, Barlow & Wilson, 2014, p. 846). The respondents shared their views pertaining to the role of waste regulation enforcement in the CoJ.

Most respondents were clear about how lack of waste by-laws implementation was negatively affecting the whole waste management system. The main issue was said to be lack of capacity to implement and enforce by-laws. There was a sense of being powerless regarding waste by-laws enforcement. Respondent A mentioned that when one sees people dumping illegally it was difficult to intervene as some waste collection truck

drivers were aggressive. One therefore needed law enforcement support. It was further emphasized that the system had become weakened and people were no longer scared of law enforcement:

> It's more to do with capacity – I think we need capacity. I also think we need to extend by-law enforcement not just to JMPD, EMI should also be able to enforce by-laws because most cases attended to by EMI had by-laws enforcement as well (Respondent A).

Respondent B identified another weakness that crippled enforcement, which was the issue of low level or amount of fine payable for offences. The amount was not serving as a deterrent to discourage offenders. There was no alignment with the legal system to deal with waste offences and that further weakened the enforcement. Respondent C agreed with Respondent B and stated that there was no visible policing, and enforcers could not make any gains in dealing with waste offences.

Respondent J explained that municipal courts and prosecution were relocated to the Department of Group Legal and Contracts and was no longer at JMPD. This had been done to address the issue of alignment and ensure the improvement of courts and prosecution services. However, it was stated that the full function of that unit was dependent on prosecutable cases being brought to it. The unit had since identified other factors that contributed to poor enforcement of the by-laws, including the following:

- The officer has to be sure that the right person is charged when issuing a section 56 notice to an alleged infringer. This is important because the officer is expected to identify the perpetrator in court. Most officers thought that their work stopped once they had issued section 56 notices, disregarding the fact that it was their responsibility to ensure that a successful conviction is obtained if the case goes to court.
- Many of the by-laws are well formulated but are not easily enforceable and are difficult to prosecute due to the way they were written.

- Some officers had no training in the by-laws, especially in a specialized field like environmental management. There had not been good communication with the departments and there had not been a joint operation that involved experts in enforcement.
- Prosecutors often do not take by-law enforcement seriously and magistrates appear to think that by-law infringements are minor and that there are more serious crimes to deal with like murder and rape. Prosecutors and magistrates were never trained in environmental legislation and waste by-laws and often do not understand the purpose of it and the impact of committed offences.
- There is a lack of public awareness in terms of the requirements of the by-laws. The fines imposed are very low and can be issued by a peace officer (up to R 5000 as listed in Table 1).
- There is misuse of resources by officers and a lack of technology to verify and validate persons, especially foreigners. There is a lack of collaboration with other departments like Home Affairs in dealing with access to proper records of a person to be charged.

It was emphasized by Respondent E that JMPD had the authority and duty to implement by-laws. However, the limited understanding and interpretation of environmental legislation was seen as a contributing factor in poor waste by-laws implementation. The focus of JMPD officers was mostly on petty offences and not all offences as reflected in the schedule of fines.

> Even sometimes if you look at the fines they have issued – you can see that there is a lack of interpretation and application of the legislation. Which is why I think it's because of that limited skill during training on environmental legislation (Respondent E).

Respondent I gave a perspective of how the quality of issued citations affects the whole enforcement value chain. There were un-capturable cases due to late submission, and infringer details captured incorrectly which

eventual renders the case non-prosecutable. The experience was that a large number of cases ended up non-prosecutable due to such errors. The Municipal courts and prosecutions unit designed a process flow (Annexure F) which assisted in identifying errors at various stages. The prosecutor played a critical role in ensuring that cases that went to court were prosecutable ones and that evidence existed to support the case.

Respondent G explained the challenges when enforcing by-laws. It was difficult to catch perpetrators as they would arrive at the scene after the alleged offenders had left. The community members were relied upon in such cases to provide evidence like car registration information. It was suggested that in a case of officers not seeing the by-law contravention, there was a process to be followed before section 56 notices were issued. Respondent H brought another dimension that frustrates enforcement, the challenge of being reactive due to lack of sufficient resources to service the entire CoJ:

> You will find that a person has dumped in the morning but the officers get alerted around midday, there is nothing that you can do but only to contact Pikitup to go clear it up, that's a biggest challenge instead of being proactive we reactive (Respondent H).

Another factor identified as contributing to poor enforcement was that some community members did not know where to report, and which office to contact between City Parks and Pikitup. Respondent K confirmed that when people litter on the spot it was not easy to get by-law enforcement officers to immediately fine or arrest the offender. It was the view of Respondent K that the JMPD appears to lack the capacity to respond urgently to such a call. There were a number of such incidents which required a JMPD officer to be at the location of the offence in order to catch the offenders.

Respondent L raised a number of hindrances to effective by-law enforcement. Firstly, the By-law Management Unit was centralized and had

only 22 officers to cover the whole of the CoJ. The regionally based JMPD officers would focus only on traffic related fines (Figures 9, 10 & 11). However, in the region where the respondents operated there were some relationships built with regard to assisting Pikitup with enforcement even if the officers were not from the BMU. There was, however, a skewed focus when fines were issued. This was alluded to by Respondent E who observed that enforcement officers seemed to be focusing on 'low hanging fruits', namely those contraventions associated with waste transportation where traffic fines could be issued.

> When reporting JMPD provided a big number of fines issued but when one dig deep only to find that illegal dumping is just a small percentage (Respondent L).

According to Respondent M the access to waste facilities contributed to illegal dumping, that is, accessibility to landfill site, proper use of garden site and tariffs at the site. Due to the ineffectiveness of enforcement, such situations did not make any difference. Respondent N agreed with this statement and felt that the JMPD was not coping.

4.4.3.3 Theme 3: Leadership in Waste Management

i) Leadership style and accountability

Different respondents highlighted different leadership styles. The code of leadership and accountability originated from the writing of a number of authors. Fukuyama (2013) observes that" in modern organisations highly educated professionals are trusted with a much higher degree of discretion because it is assumed or hoped that they will be guided by internal norms in cases where their behaviour cannot be monitored from the outside. Meuser, et al., (2016) analyses a network of leadership theories with the purpose of investigating the status of leadership integration. The leadership attributes and characteristics demonstrated by different actors to a certain extent relate to internal norms that should guide their behaviour. The

conduct and behaviour of various role-players was further found to be linked to one or more leadership theories as analysed by Meuser, et al., (2016). The lack of coherent policies and incoherent implementation coupled with obvious lack of accountability among the authorities involved in waste management was found to be the cause of poor waste management (Igbinomwanhia, 2011, p. 2000).

Most respondents agreed that there was a problem with shortage of resources which had persisted for a number of years. That situation required transformational leadership which was described as having four concepts one of them being idealized influence and inspirational motivation.

The continued and perpetuated behaviour by the public with regard to waste offences committed indicated the challenge regarding strategic leadership within the CoJ. This is linked to the challenge of limited availability of resources. Meuser, et al. (2016) describes strategic leadership as a leader's ability to anticipate, envision, think strategically and work with others to initiate change.

Different actors have different mandates and obligations to take care of. This applies also to the different stakeholders within the CoJ waste management regime. The need to successfully deal with multi-stakeholders catalysed the participative/ shared/ delegation/ empowerment leadership theory. This form of leadership describes how leadership is distributed and shared amongst multiple participating individuals. It is advantageous to an organisation operating within complex and turbulent environments as it provides team members and executive decision-makers with greater access to social capital and material resources needed to adapt their strategies to changing contexts (Devine, et al., 1999).

The leadership theories mentioned above cut across different issues and challenges raised by respondents. To address each one of them requires

some form of leadership, whether transformational, shared, strategic or participative, and delegation or empowerment leadership.

4.4.3.4 Theme 4: Public Value of Waste Services

i) Input consideration

The availability of resources is critical for the effectiveness of a multi-actor arrangement in environmental management (Newell, et al., 2012). Input consideration as one of the codes was supported by this view. The respondents also shared different views regarding the availability and utilization of resources. Material capital in relation to waste governance includes financial and other tangible resources that are made available to actors commensurate with the main policy agenda. Financial resources was mentioned as the most needed resource but which is never sufficient. According to Respondent A, there is never enough money to acquire all resources needed. Money to train people and to buy uniform and other things required to perform the function. Respondent B put emphasis on sharing of resources and planning together as lacking amongst stakeholders. While Respondent C mentioned that human capital on its own was not enough.

> If they can set one target and put together whatever they have for the same purpose (Respondent B, EISD).

It emerged that JMPD did not have sufficient resources to implement waste by-laws. What also surfaced was the expectation by BMU that other departments should provide resources to BMU for by-laws to be implemented.

> Like I said earlier on if you engage with JMPD and you want to pin them to certain deliverables, the first response you get is that give us resources, which means that they have not made provision for resources to implement your by-laws but the mandate lies with them. So then you ask yourself if they have the mandate to implement the

> by-laws why are they not motivating for the resources, why do they expect me who does not have a mandate to implement to give those resources (Respondent E, EISD).

There was a feeling that BMU implements the waste by-laws as a favour even though it is within their mandate. Respondent G (JMPD) did not view the issue of resources as only affecting the JMPD, as a shortage of resources can be applied to all departments since each one of them had a significant role to play in dealing with waste management challenges. It was emphasised that much more can be done to ensure that departments are given sufficient resources. Reiterating the issue of resource shortages, Respondent H raised the point of language when educational materials like pamphlets are produced. The fact that pamphlets are only written in English excluded those members of the community who could not read English. More finance was required to ensure promotional materials could be accessed by all community members:

> If you give someone a pamphlet written in English and that person don't understand English, how do you expect them to read? They will just throw it in the bin. But when something is communicated with my language I will show interest and listen (Respondent H, JMPD))

As much as resource constraints were acknowledged, according to Respondent K from Pikitup, that could not be used as an excuse for not doing their work. The resource challenges that the regulators encounter could not be discussed by the regulation implementers; however, it was obvious that all departments face a challenge in relation to having sufficient resources.

Respondent L (Pikitup) concurred that a shortage of human capital had affected the operations. Vacant positions are not filled even though the demand for work remains high. The second challenge was the fleet that is used because the appointed service provider did not achieve the target of

90% fleet availability. There was a dedicated fleet for dealing with illegally dumped waste which was a significant challenge at the Pikitup depots. Furthermore, the IT resources were reported to be inadequate.

According to Respondent M (Pikitup), there were adequate resources to periodically clear illegally dumped waste. Respondent L, however, stated that depots were struggling with the limited resources allocated to handle illegally dumped waste. Another resource which was identified as critical was the shortage of landfill space.

Respondent N focused on the co-ordination of efforts amongst stakeholders. There was a perception that the JMPD was involved in dealing with apprehending illegal waste disposers or infringers. To what extent that was co-ordinated with Environmental Health, Environmental Management, Pikitup and Park Rangers was unclear. There was a perception that there was no well-coordinated by-law enforcement effort to maximize the utilization of available resources:

> Ward policing was introduced by the Mayor, because there was an indication that JMPD did not have enough resources. We have never seen a report that said that was working well, therefore the perception was that there was a lack of co-ordination amongst departments (Respondent N).

ii) Output measures

One of the broad approaches to evaluating quality of governance was output measures. Output measures consider the final product of development intervention (Fukuyama, 2013). The development intervention in this study referred to waste policy and programmes put in place at the CoJ to address waste regulation challenges.

iii) Results of waste regulation implementation

Respondent A (EISD) explained that there were few compliance notices issued by EMIs in accordance with NEMA to waste operators and fines issued in terms of waste management by-laws were limited. Respondent B (EISD) agreed that the number of fines issued was limited and that the legal system should become more involved in the processes. Strong actions were not taken against offenders due to fine books not being aligned and also because the fines were not punitive enough to punish and discourage offenders. While the fines could be issued it was believed that if the offenders challenged the fines in court, they would win the case.

> Limited actions are taken to punish waste offenders and it's not visible (Respondent C).

The point of follow-up and tracking the offender's behaviour after the fine had been issued was brought up by Respondent E. It was said that some infringers could pay fines and go back to doing the same thing. The system was weak in that it cannot track the actions of repeat offenders so that more stringent action could be taken. Respondent G concurred with Respondent E that:

> It's of no use giving an infringer a section 56 notice for dumping illegally where the very same person is going to do the same thing again. The section 56 notice and the amount of fine that we are writing need to be amended, that amount of R1 500 needs to go up to the higher amount that will actually try to deter people from doing illegal dumping (Respondent G, JMPD).

The emphasis was also on the court system which was aimed at establishing municipal courts; there was a view that those courts will have to be fully capacitated, a point supported by Respondent B. The negative attitude of the JMPD as the police department which must enforce the by-laws so that the CoJ generates income was strongly raised by Respondent H who stated that their mind-set needed to change.

Respondent K (Pikitup) was not aware of any prosecutions against waste offenders, but that only citations had been issued. There had not been any known prosecutions. Respondent L was concerned about reporting and feedback on reported cases, and observed that it would be important to obtain statistics from the JMPD at regional level about action taken against waste offenders:

> There is no synergy and dissemination of information (Respondent L).

iv) Waste Service delivery

Farahbakhsh and Marshall (2013) contends that ISWM systems are tailored to specific community goals by incorporating stakeholders' perspectives, needs and local context. The waste service delivery code was found to be linked to what these authors contended. Community goals and local context of waste systems touched on the delivery of service that responds to the needs of the community and is valued by the community. Stakeholders involved in waste management shared their differing views about the experiences of the regulated community.

v) Experiences of the regulated community

The CoJ community was presented as being divided into two categories. There were those who had access to waste services but did not care. On the other hand, there were those from high density areas and living under poor conditions where their focus was on survival. These two groups responded differently to issues of waste management which was influenced to a certain extent by access to services. There were instances where the distance to a disposal site was considered far and this discouraged people from disposing of their waste appropriately. On the other hand, some of those provided with bins misused them for other purposes, such as brewing beer:

> People are just irresponsible. In South Africa we have an 'I don't care' attitude (Respondent A).

Respondent B stated that people were frustrated with the failure of government and that had an impact on service delivery. Members reported complaints but complaint handling system was not as effective. Most of the time officials were more reactive than proactive.

> Is the way the city is arranged, for instance the complaint will be lodged at EISD which will initiate investigation? Pikitup will then be contacted to clean up while JMPD expected to go and enforce waste by-laws (Respondent B, EISD).

Other inherent risks to which communities were subjected due to illegal dumping were crime and disease vectors like rodents. Furthermore, as emphasized by Respondent C (EISD), their surroundings were not aesthetically pleasing. The perception created was that the CoJ was allowing illegal dumping to occur, either by not enforcing the by-laws or by not providing adequate waste services.

> But I think the attitude is that what is CoJ expect us to do if there is no adequate service which talks to the needs of the community (Respondent E).

The point of being reactionary in addressing the issue of illegal dumping was emphasised. Pikitup will clean up after a complaint about illegal dumping has been lodged but there was no process to address the problem proactively. Respondent G identified the need for ongoing awareness campaigns to educate people on how to eradicate illegal dumping of waste. This was especially required for people migrating to the City and who may be unaware of the waste by-law requirements.

The gap in the complaints management system was identified by Respondent H (JMPD) who noted that complaints lodged by the public were

not properly handled and there was a perception that members of the public did not really know where to report such complaints. When reported, the response time was very long. It would take a week for an enforcement officer to act on the complaint from the call centre. Respondent K (Pikitup) observed the habitual behaviour and lack of change in the attitudes of communities despite education and awareness conducted by Pikitup. The response rate to complaints was good after complaints had been lodged via the call centre, emails or telephone and records were maintained.

Respondent L agreed with Respondent K regarding how complaints are handled at Pikitup but highlighted how the strike had ruined the relationship between Pikitup and residents. The concern was raised by Respondent M who explained that there was a misunderstanding on the part of the public about the role of Pikitup in respect of waste management that was its essential function and competency. Respondent N suggested that there were offenders and sufferers. It could be only a few people not complying with waste by-laws as compared to those who were exercising discipline. The ineffectiveness of waste services was perceived as the cause but the need to educate the public was acknowledged.

4.5 INTERVIEWS WITH MEMBERS OF THE COMMUNITY & CIVIL SOCIETY

The total of three (3) respondents who were both community and civil society members were purposively sampled. The sampled community members and civil society was influenced by the availability of the respondents and by time constraints. Two (2) respondents were from one of the largest townships in Johannesburg, namely Alexandra while one (1) was from Orange Farm situated in the south of Johannesburg. These members had lived in these areas for their whole lives. The City of Johannesburg had different initiatives aimed at alleviating poverty. One of those initiatives was the establishment of co-operatives constituted by

community members who started businesses from where they reside. The respondents were co-operatives involved in the business of waste recycling and their length of experience varied from four (4) years to (9) years. Each co-operative employed a minimum of fifteen (15) community members. To encourage community members to take care of their living environment by keeping it clean while instilling the culture of waste recycling, the CoJ fully supported the co-operatives.

The CoJ supported co-operatives in implementing one of the developmental intervention programmes identified in the CoJ Integrated Development Plan, which was waste separation at source. The CoJ created an enabling environment for the establishment of co-operatives or entrepreneurship in waste management. Youth and women were the main members of the co-operatives. The CoJ has seven (7) regions and each region had one or more co-operatives. Twenty-four (24) co-operatives were established by the CoJ through its waste management company Pikitup. Only three of these participated in the study.

Data collection was done through semi-structured interviews and observation of non-verbal messages of the respondents. Respondents were interviewed face-to-face from their places where they conducted their businesses and where they reside. Prior to the interview each respondent was informed about the purpose of the study and thereafter signed the consent form (Annexure A) confirming their willingness to participate in the study. The company directors who were knowledgeable about the area and had received training on the waste recycling industry participated. The interviews were recorded after permission to record them was granted by respondents. To prepare and organise collected data the verbatim transcribing of the interviews was carried out. The duration of the interviews varied as well with the longest being 60 minutes and the shortest being just above 30 minutes. It was observed that more experienced company directors took more time during the interviews, which could be due to the

level of information they had. Different types of non-verbal messages were noticed that were aimed at either emphasizing the point or showing dissatisfaction about the issue being discussed.

4.5.1 Theme 1: Waste Governance Model

4.5.1.1 Measures of bureaucratic autonomy

Community members felt that actors did not exercise their powers sufficiently. It was observed that their power was diffused as a consequence of political deployment. This resulted in limited access to required resources.

> JMPD has a mandate to enforce but I think they have a challenge in exercising the power to enforce waste legislation (Respondent Q).

4.5.1.2 Capacity measures

There was an observation from waste recyclers that South African citizens were not interested in the waste industry. They also felt that their issues were not taken seriously. The ward committees were informed during ward meetings or street meetings around Alexandra about matters such as illegal dumping. Their attempts to report such incidents to Pikitup were not responded to quickly, and could take up to six weeks for a response.

4.5.2 Theme 2: Waste Regulation Measures

4.5.2.1 Compliance monitoring

The type of waste offences being committed included waste recyclers from landfill sites fighting over waste recyclables, break-ins at the buy-back centres to steal waste recyclables, or illegal dumping of waste:

> They are recorded but I personally believe that there is no-one who is taking responsibility for such things. We also report to Pikitup that we had break-ins – the only thing that they are concerned about will be the facility- it becomes more of the security of the facility than waste (Respondent O).

These offences were happening throughout the City and other contributory factors cited were waste storage and collection. The 240-litre bins provided by Pikitup when full with mixed waste caused a problem especially when the waste truck did not come to collect.

Respondent P agreed with Respondent O on the types of offences experience by co-operatives. The burning of waste was added to the list as well as stealing of sorted recyclables from suburban areas on a waste collection day, the suspects being the informal reclaimers found from suburban areas. Co-operatives provided marked refuse bags for different recyclables. Residents used the bags for those recyclables which were taken out on the collection day, but before co-operatives come to collect them the informal reclaimers will come first and take their bags and this may lead to conflict. All co-operatives from throughout the city were experiencing the same thing and this had been reported to Pikitup during their meetings.

Respondent Q concurred and added that mostly bulk waste was thrown away, and from his experience the residents in Alexandra did not know where to take such waste. Big businesses involved in waste transportation were also guilty of illegal dumping of building waste. It was assumed that they were avoiding costs by not transporting such waste to the landfill site:

> So what Pikitup has done they are engaging with security companies – to make sure that they do their job – in terms of recording and in terms of checking stock – that's on site before we leave – and if we happen to find anything missing – they should account and the

security company should account – and reimburse for the loss – so at least there is a light now (Respondent Q).

4.5.2.2 Enforcement of waste regulations

Respondent P sounded very concerned when he explained that:

> No, no, enforcers are not helping - we have tried by all means – even when we see illegal dumping trucks around Alexandra – we take the registration number, then we call the metro police. The by-laws are not working for us as a whole citywide – the by-laws are not working *"adebereki"* – we report to officers and they are not doing anything, like those who steal our material we do not see them we just report – but illegal dumping we see them and report (Respondent P).

It appeared that enforcers were not adequately responding to reported cases. Respondent Q shared the same sentiment as Respondent P and said that there were doubts as to whether enforcers were responding to reported cases, although a few changes were seen. The impression was that the City was also overwhelmed by the challenge and most likely was attempting to identify viable solutions to the problems. Notwithstanding, there was some assistance being given at a low scale.

4.5.3 Theme 3: Public Value of Waste Services

4.5.3.1. Input considerations

From the perspective of the community and civil society there were contradicting views regarding resources provided to government officials. The view was that regulators have resources but they did not regulate while there was uncertainty as to whether the JMPD was fully equipped to enforce by-laws on waste removal transportation:

I think they have enough resources like JMPD have transport but misuse it (Respondent P).

Going back to reclaimers as they move around collecting recyclables but our roads are not conducive for them – because you find them even now in awkward places – as a driver you have to duck them – when you are driving you need to be extra cautious, and I think JMPD are not fully equipped to managed that (Respondent Q).

4.5.3.2 Output considerations

There was a shared view in terms of action taken to punish the waste offenders, where respondents felt that not enough was done since the problems persisted:

If you go to Alexandra there is a lot of illegal dumping – trucks come from Sandton to dump because there is no by-laws in Alexandra (Respondent P).

4.5.3.3 Waste Service delivery

While there was a concern about poor service delivery (shortage of refuse bags being supplied, inconsistency in collection and schedule) by authorities, there was a strong emphasis on the role of the community regarding the handling of waste. The need for well-planned education and awareness campaigns was clear.

I don't think the community understand the meaning of the shared responsibility (Respondent O).

Respondent Q added that while collecting recyclables they also conducted education and cleaning up of illegal dumped waste. However, the communities know what is wrong and an extra effort was required to change their behaviour:

> I suggested to the stakeholders that can we have letters issued to these people because they don't listen – we have spoken to them – and bearing in mind that its high risk – that road is very high risk. Apparently, they felt that they don't want to threaten people – rather speak to them – if stakeholders still feel that they don't want to be harsher – we will still have this challenge – it will never be solved – because we have been talking and people know but are not willing to do the right thing (Respondent Q).

4.5.4 Theme 4: Leadership in Waste Management

4.5.4.1 Leadership & accountability

The co-operation with by-laws enforcers was required especially when the issue was reported. Waste recyclers expected feedback on reported cases on how infringers were dealt with. The visible enforcement of waste by-laws in terms of perpetrators being caught and not seen committing the same crime over and over again in their areas was emphasized.

> If they can come back to us and say "*reba tsewri*" – "we will be happy" "*rehloba"* - happy"… if we can see visible change and get feedback on reported cases – we will be happy" (Respondent P).

However, the role played by law enforcers during the labour unrest undertaken by Pikitup employees was appreciated. The officers provided security for service providers who had been hired on a temporary basis. Waste recyclers were hired to keep the area clean and officers ensured that they were safe.

It was further suggested that if Pikitup can do round collection at least three times a week illegal dumping was likely to be reduced. This suggestion emanated from the belief that the once weekly collection was insufficient.

It had been reported to the Ward committees that the stakeholders were not helping; the Ward committee members encouraged waste recyclers to conduct education and awareness after the issues were reported. The stance taken by waste recyclers was that they can undertake education and awareness but if JMPD and Pikitup and others did not take the necessary action, "*iya tswana*" (it was going to remain the same). The point that was stressed was that education and awareness should supplement the actions taken by key stakeholders in waste regulation implementation. A concern was also raised regarding the informal recyclers pulling trolleys in the busy streets of the CoJ.

4.6 EXAMINATION OF RECORDS FOR CROSS-VALIDATION

4.6.1 The approach to record examination

Record examination was carried out using a document analysis approach. Document analysis refers to an integrated and conceptually informed method, procedure and technique for locating, identifying, retrieving and analysing documents for their relevance, significant and meaning (Weighner, Kawulich & Garner, 2012). The analysed documents provided secondary data. These documents included annual reports, waste plan, waste management by-laws, waste fine schedule known as the blue book, and reports on citations.

4.6.2 How document analysis was conducted

Weighner, et al., (2012) suggests a useful guide for the document analysis process. The steps that were selected for the purpose of analysing selected documents included,

- Document description (title, type of document, basic structure, date of the document, author of the document and audience for which the document was written).

- Document information (why the document was written and what evidence in the document helps to explain why it was written).
- Engaging the document using analytical attitude (what is said in the document, how social meaning is created in relation to the topic, examining the rhetorical stance of the text, considering how specific issues the document raises are structured and organized, how a specific argument, idea or concept is developed, investigating how it seeks to persuade about the authority of its understanding of the issue).
- Providing the code for each document.

4.6.3 Theme 1: Waste Governance Model

4.6.3.1 Waste policy and strategy

The CoJ developed both a five-year waste policy and associated waste plan which were widely known as the IWM Policy & Plan. In order to comply with the requirements of the South African Constitution and the Waste Act, the CoJ had to develop both these documents. The CoJ had to developed and implemented local policy, programmes and legislation to protect and conserve the environment. The Integrated Waste Management Policy was developed to contribute to the protection and conservation of the environment. The policy aims to, “integrate all aspects of waste management within the COJ and supports other obligations with respect to waste management as outlined in other policies of the Gauteng Province and the National government (CoJ, 2011).

The purpose statement provided a basis for integrated waste management by-laws to regulate waste generation and waste management service delivery and to introduce, facilitate and encourage effective waste minimisation, reuse, recycling, and conversion to energy. To achieve these objectives requires the development of appropriate procedures.

Goals and objectives of the policy include: to provide instructions on the implementation of IWM principles with respect to the waste hierarchy in order to address challenges of waste service delivery, illegal dumping, landfill airspace and source separation of post-consumer recyclables; and to provide for compliance measures to ensure the attainment of the set objectives. This was aimed at preventing pollution and ecological degradation through strategic interventions to promote the judicious management of waste by all inhabitants of the CoJ, including business and industry. The intervention to address matters pertaining to littering, illegal dumping and hazardous waste management. Further promote and ensure the effective delivery of waste services to all waste generators within the CoJ by extending appropriate waste services to all un-serviced areas and to strive for continually improved level of service given. Integrated waste management reporting and planning to be achieved through the development and/or implementation of an appropriate and efficient waste management system aligned with provincial and national waste information requirements. Achieving compliance with the waste management by-laws of the CoJ through effective enforcement includes the option of prosecution in the case of non-compliance (CoJ, 2011).

The National Environmental Management Waste Act 59 of 2008, section 4(a) states that each municipality should prepare and submit an IWMP to the relevant MEC for approval (RSA, 2008). The approved IWMP should be incorporated into the Integrated Development Plan as contemplated in Chapter 5 of the Municipal Systems Act 32 of 2000. The plan should be reviewed and aligned with new developments in South African waste management legislation. The primary objective of IWMP planning was to integrate and optimise waste management services thereby maximising efficiency and improving quality of life of all citizens while the associated environmental impacts and financial costs are minimized (DEAT, 2000). The IWMP is aimed at facilitating the implementation of the Waste Policy

wherein eight goals are listed, which address the main challenges identified within the CoJ, while taking cognisance of the national and provincial targets including the overall objectives of the CoJ to be a clean city. Each goal has a set of objectives, targets and action plans. An additional four supporting goals were identified which offer support to the attainment of the core goals (CoJ, 2011).

4.6.3.2 Institutional arrangements

Figure: 8: Main Actors in Waste Governance

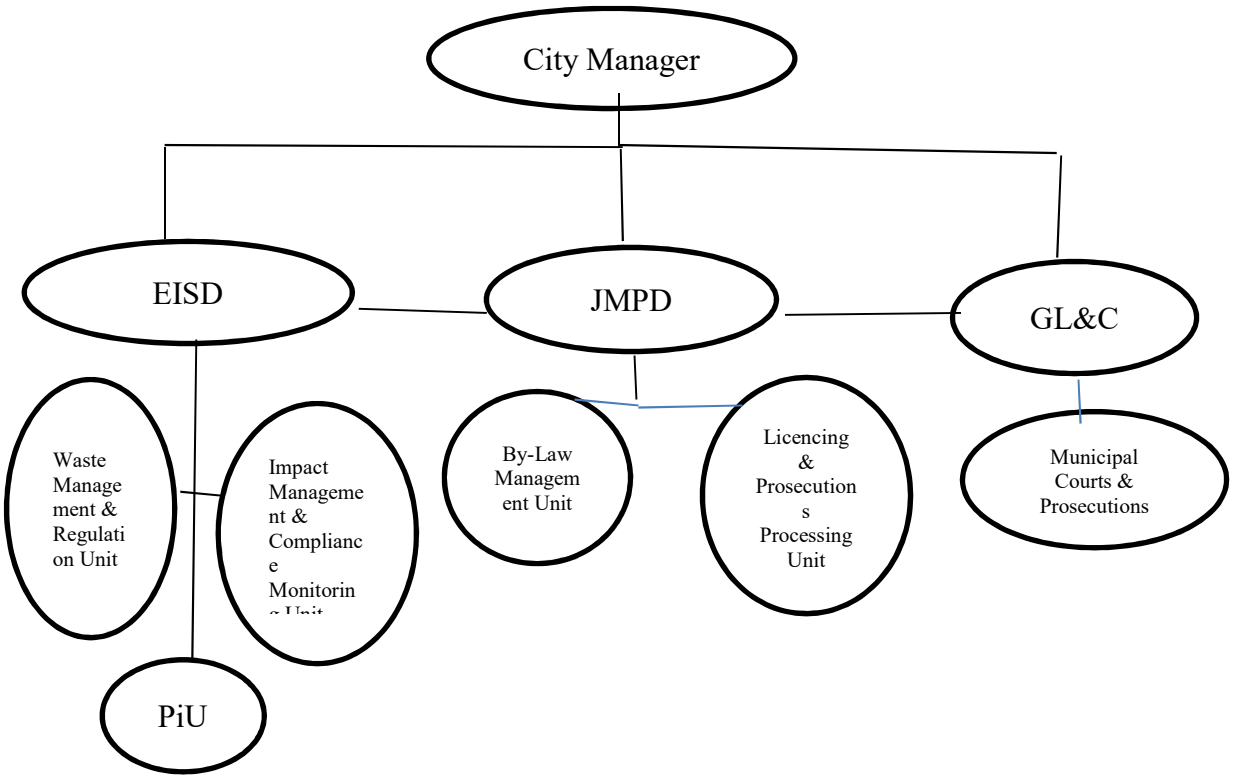


Figure 8 above shows the key departments and their units at the centre of waste governance. Their responsibilities are listed in Table 1 below.

Table 1: Responsibilities of the Units

Entity/ Department/ Unit	Responsibilities
Waste Management and Regulation	Waste policy & plans formulation Waste programmes & projects Undertake compliance audits to ensure compliance waste policy & plan by waste operators Waste services delivery monitoring & evaluation Waste information management and research Waste management by-laws & waste standards development & implementation
Impact Management & Compliance Monitoring Responsibilities	Environmental regulatory services Environmental Management Inspectorate Environmental Impact Assessments for new developments Compliance monitoring on private & government owned development Environmental complaints management
By-Law Management Unit	Facilitate the compilation of the fine schedule book Enforcement of the by-laws Co-ordination of blitz to strengthen by-law enforcement Collaborate with other stakeholders in complaint resolution.
Licencing and Prosecutions Processing Unit Responsibilities	Data capturing of all citations as per by-laws of CoJ Analysis of By-law contraventions Provide material resources required for citation management Liaise with courts with regard to citations
Pikitup SOC Responsibilities	Provision of municipal waste services in accordance with SDA Ensure that waste standards as stipulated in the SDA were maintained Report waste service performance to the shareholder as required in the SDA
Municipal Courts & Prosecutions Unit Responsibilities	Support the development and implementation of the by-laws Oversee the court process with regard to issued citation Ensure the legality of documents produced by departments

4.6.3.3 Capacity measures

Capacity & Human Resource is one of the key priority areas mentioned in the IWM Plan. The main objectives of this area are to provide additional technical capacity developed to deal with norms and standards, industry regulation and remediation, EMI capacity expanded to deal with Waste Act and By-laws implementation, private sector capacity mobilized to support waste service delivery and community based collection models. Flowing from these objectives were specific targets set (CoJ, 2011). The targets are:

- Vacant post to be filled within six months of the vacancy being created;
- Annual monitoring of the developing plans for the internal staff in line with the needs of the CoJ, e.g. EMI training;
- Waste Public Private Partnership (PPP) and/or community-based waste collection models to be implemented.

4.6.3.4 Measures of bureaucratic autonomy

One of the broad approaches to evaluating quality of governance was measures of bureaucratic autonomy. Measures of bureaucratic autonomy assisted in looking at what mandates and obligations given to each actor or stakeholder (Fukuyama, 2013):

- City Manager's mandate and obligations: The City Manager as an accounting officer of the municipality is ultimately responsible for the provision of waste management services to the CoJ residents in accordance with South African legislative requirements and the IWM Policy (CoJ, 2011).
- EISD mandate and obligations: The EISD mandate and obligations include the planning, policy and strategy development, regulation,

including compliance and enforcement, monitoring and modelling, facilitation and implementation of key strategic projects, roll-out of municipal services in an integrated manner through co-ordinated planning, integrated education and awareness. The mandate covered two focus areas, that is, environmental sustainability and infrastructure planning (EISD, 2015).

- JMPD mandate and obligations: The JMPD 'mandate is explained in the Traffic Act and Regulations. Furthermore, the Council took a resolution that the JMPD was the custodian of by-laws enforcement including waste management by-laws. To that effect JMPD had a dedicated unit called the By-law Management Unit (BMU) solely responsible for by-law implementation citywide.
- LS&CD mandate and obligations: This provided legal support to core departments and co-ordinated the development of by-laws. The Municipal courts and prosecutions unit was recently transferred to LS&CD from JMPD. It ensures that the By-law court roll process flow (Annexure F) is adhered to. When section 56 notices were delivered at the receiving section they were checked for visible mistakes that would render those uncapturable cases. These are then take to the data capture section for verification where things like ID numbers and car registration would be verified to check for system error or defects. Prosecutors would then attend to cases put on the roll and support court proceedings.
- PiU mandate and obligations: Pikitup was the municipal owned entity established to provide waste management services to the CoJ residents according to the Service Delivery Agreement (SDA) entered into between the Pikitup Board and CoJ. The services and standards to be provided and maintained are contained in the SDA. The observance of applicable legislative requirements was of paramount importance while rendering the service (Pikitup, 2014).

4.6.3.5 Waste policy implementation

The Waste Policy statement on the implementation of IWM Policy stated that the policy was to be implemented throughout the CoJ from the date of its approval by Council. The CoJ will provide the necessary resources, create awareness and build capacity to support the implementation of the policy (CoJ IWM Policy, 2011). The instruments for the implementation of the IWM Plan are identified to include 1) partnerships, 2) legal and policy instruments, and 3) economic instruments.

4.6.3.6 Monitoring and evaluation

One of the key priority areas was performance monitoring and reporting. The main objective was to implement systematic monitoring of key performance indicators by all relevant sections/departments in the CoJ and Pikitup in accordance with the requirements of the plan, and reporting on the key performance indicators in line with provincial and national requirements. The targets that were set (CoJ IWM Plan, 2011) include that reliable data is available on 90% of the IWMP key performance indicators. All sections/departments responsible for waste functions within the CoJ and Pikitup must submit annual performance reports.

4.6.4 Theme 2: Waste Regulation Measures

The objectives of the CoJ Waste Management By-laws was, i) to regulate the collection, transportation, storage, disposal, treatment and recycling of waste within the Council jurisdiction; and ii) to regulate and ensure effective delivery of municipal waste services and regulate the provision of commercial services through accreditation of service providers.

4.6.4.1. Compliance monitoring

To give effect to the objectives of the Waste Management By-laws, the CoJ identified fines and documented them in the book normally referred to as the "Blue Book". Table 2 below reflects how waste management by-law offences were structured and arranged. There are only fifteen offences taken from Waste Management By-laws promulgated in 2003. Offences were not yet aligned with Waste Management By-laws promulgated in 2013 which were repealed by the 2003 By-laws. As a result, waste offences reflected were not entirely aligned with the most recent waste challenges that required strict regulation.

Table 2: List of Waste Offences & Fines

Offence Code	Section	Offence Description	Fine
115009	22(1)(a)	Operate a vehicle for the conveyance of waste upon a public road unless the vehicle has a body of adequate size and construction for the type of waste being transported.	R500
115017	22(1)(b)	Fail to maintain a vehicle used for the conveyance of waste in a clean, sanitary and road worthy condition at all times.	R1000
115025	22(1)©	Fail to cover loose waste on an open vehicle with a tarpaulin or suitable net.	R500
115033	22(1)(d)	Cause or permit waste being transported in or through the municipal area to become detached, leak or fall from a vehicle transporting it, except at a waste disposal facility.	R500
115041	23(2)	Burn waste either in a public or private place, for the purpose of disposing of that waste.	R500
115059	23(3)	Incinerate waste either in a public place or private place except in an incinerator at a place where the relevant national or Gauteng authorities permit such	R1500

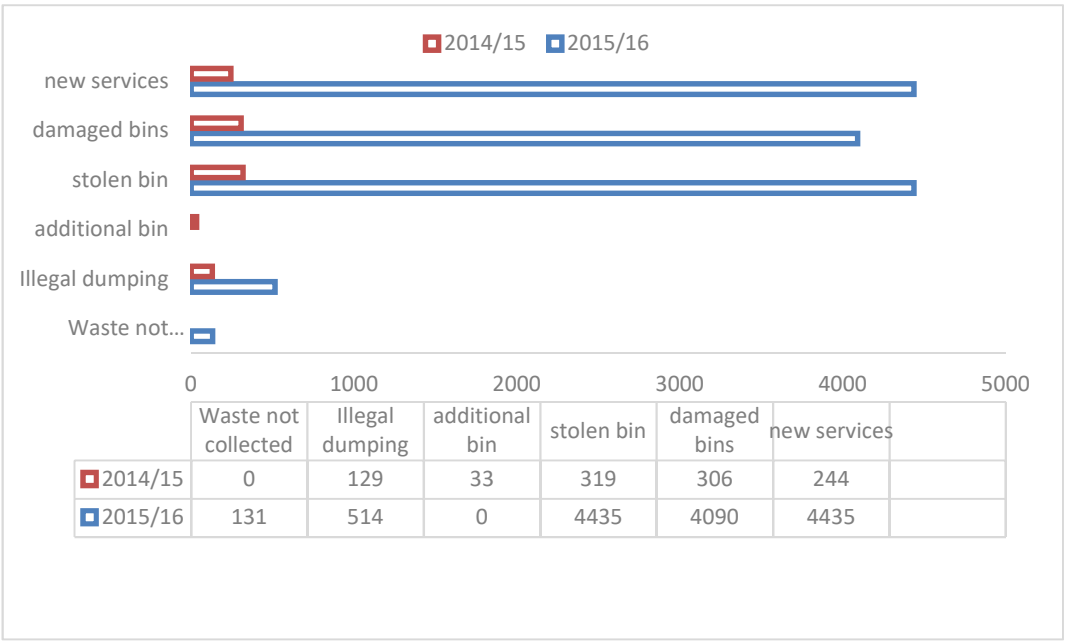
		incineration or at a place designated by the Council for that purpose.	
115067	23(7)(a)	Bring liquor or intoxicating or narcotic substances onto waste disposal facility or enter such facility under the influence of liquor or such substance.	R500
115075	23(7)(b)	Enter a waste disposal facility in terms of these by-laws, unless authorised to do so by the Council then only at such times and subject to such conditions as the Council or such person may impose.	R500
115083	23(7)(c)	Dispose of waste at a disposal facility where the disposal of waste concern is not permitted.	R500
115091	23(7)(d)	Light a fire at a waste disposal facility without the prior written consent of the person in charge of the facility.	R500
115106	23(12)	Store waste for more than 90 consecutive days.	R500
115114	24(1)(a)	Collect or transport business (bulk containerised waste stream listed in subsection (2) without having obtained from the Council and being in possession of a licence authorizing such collection and transportation.	R1000
115122	24(1)(b)	Collect or transport industrial waste stream listed in subsection (2) without having obtained from the Council and being in possession of a licence authorizing such collection and transportation.	R1500
115130	24(1)(c)	Collect and transport special industrial waste streams listed in subsection (2) without having obtained from the Council, and being in possession of a licence authorizing such collection and transportation.	R1500
1115148	24(1)(d)	Collect or transport hazardous waste streams listed in subsection (2) without having obtained from the Council and being	R1500

		in possession of a licence authorizing such collection and transportation.	
115156	24(1)(e)	Collect or transport recyclable waste streams listed in subsection (2) without having obtained from Council and being in possession of a licence authorizing such collection and transportation.	R1500
115164	24(1)(f)	Collect or transport health care risk waste streams listed in subsection (2) without having obtain from Council and being in possession of a licence authorizing such collection and transportation.	R1500
115172	24(1)(g)	Collect and transport building waste streams listed in subsection (2) without having obtained from Council and being in possession of a licence authorizing such collection and transportation.	R1000
115180	30(a)	Licence holder intentionally or negligently operates in contravention of condition of the licence concerned.	R1500
115198	30(b)	Fail or refuse to give information when required to do so in terms of these by-laws, or give false or misleading information.	R1500
115203	30(c)	Fail to take all reasonable steps to prevent a contravention of these by-laws, by act or an omission of his or her employee acting in the course and scope of his or her duties.	R1500
115211	30(d)	Collect or transport waste except in a properly constructed, watertight vehicle or in a suitable container that prevents spillage of waste, the suitability of vehicle to be dependent on a waste stream contemplated in section 24(1) to be collected or transported as specified in the National Road Act, 1996.	R1500

The comparison analysis of complaints and queries handled by the PIU and EISD during the periods 2013/14 FY, 2014/15 FY and 2015/16 FY indicates that EISD recorded a minimal number of illegal dumping incidents which

were dealt with in conjunction with EMI activities (Figure 9). The PIU records reflected that the queries on stolen bins rated high followed by requests for new services and damaged bins before illegally dumped waste (Figure 10).

Figure 9: Waste Query Types as recorded by PIU



	Waste not collected	Illegal dumping	additional bin	stolen bin	damaged bins	new services	
2014/15	0	129	33	319	306	244	
2015/16	131	514	0	4435	4090	4435	

Figure 10: Illegal Dumping Complaints recorded at EISD



Increased quantities of illegally dumped waste was one of the triggers for the study. The comparative analysis of three consecutive financial years (Figure 11) showed a noticeable increase in illegally dumped waste. Subsequent to increased illegally dumped waste tonnes was the cost incurred by Pikitup to deal with this challenge. (Figure 12). Interviewed respondents alluded to the waste streams that were normally dumped. Builder's rubble or construction waste was the main one followed by both domestic and green waste. Illegally dumped waste was identified by both government officials and civil and community members as the most committed offence in CoJ. Pikitup has made a concerted effort to address the challenges around builders' rubble. These efforts included the commissioning of builders' rubble crusher plants. All four operational landfill sites (Robinson Deep, Marie Louise, Goudkoppies & Ennerdale) had demarcated areas where builders' rubble crushers were located. Two closed landfill sites (Linbro Park and Kya Sands) were not provided with crusher plants. These two sites are located in the northern part of CoJ. This left residents from that part of CoJ having limited access to Pikitup crusher plants except for privately owned ones.

All four sites accepted builders' rubble in two categories, which were clean uncontaminated, and contaminated, rubble. Clean uncontaminated rubble was accepted in accordance with written specifications (see Annexure G) to make it suitable for processing in the crusher plant. The specifications include but are not limited to the following:

- Uncontaminated building or construction rubble, free of organic matter (including paper, cardboard, wood, door frames, broken doors and rhinoboard walling or ceilings), free of steel matter (including concrete reinforcement steel, window frames, door frames) at no cost to the user;
- Any rubble that can be processed by the crushing machines – the boulder size must not exceed 300mm in diameter; and

- The rubble needs to consist of objects that are no bigger than a standard brick (about 70mmX220mmX100m in size). The soil must have a maximum particle size of 20mm. Large boulders and concrete chunks cannot, however, be processed by these machines and cannot therefore be accepted in these machines.

From these specifications one can see that generators of construction waste had to sort their waste and ensure adherence to certain measurements which could result in some form of cost implication. The final product from crusher plants was not only useful to landfill site maintenance, but also used by the Johannesburg Roads Agency (JRA) for gravel roads maintenance. However, JRA had even tighter specifications in terms of quality of material they required which was not always met by the Pikitup crusher plants. Private contractors would also require such material as alternative fill, but not at a large scale. It was observed that there was still limited use/demand for processed material outside Pikitup operations.

Contaminated or mixed rubble was accepted at all operational landfills at a fee per ton in line with approved tariffs, which was charged at R95.10 including VAT. This category of waste was also accepted at privately owned landfill sites, two (Stones & Stones and FG landfill) within CoJ boundaries and one from nearby Ekurhuleni Municipality at Mooiplaas. Builders' rubble generators had to incur not only transportation costs to different sites but also costs associated with adherence to some sort of specifications.

Another challenge alluded to by Pikitup officials were gaps in regulation of builders' rubble. The first gap was located at the planning department of the CoJ whereby developers were not required to submit waste management plans when submitting building plans. This was viewed as critical since waste management plans were going to reflect how builders' rubble that was going to be generated during construction would be handled. The CoJ would therefore monitor compliance with the plan. The second gap was

insufficient enforcement of waste management by-laws by law enforcers to ensure that perpetrators were called to account. Due to these gaps Pikitup had to incur huge costs when clearing and cleaning illegally dumped builders' rubble.

The second effort was the development of the illegal dumping and anti-littering strategic plan. There were, however, insufficient measurable results of successful implementation of this plan. It was assumed that it did not get much support from key internal stakeholders.

Figure 11: Illegally Dumped Waste in tons

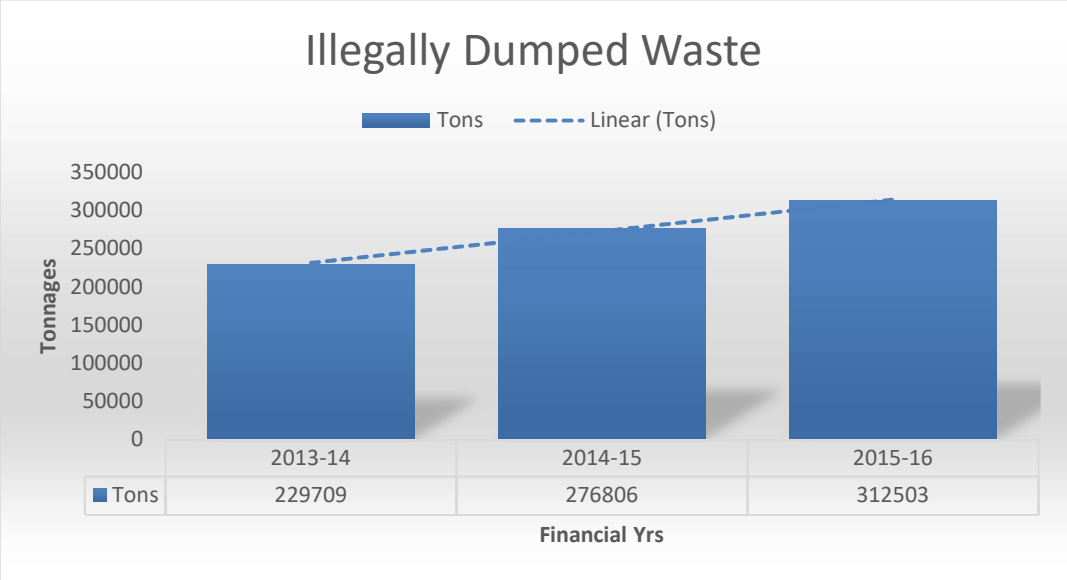


Table 3: Pikitup illegal dumping cost per year

Direct cost per year	2013-14 R'000	2014-15 R'000	2015-16 R'000
Illegal dumping cost	44,268	50,741	97,580

4.6.4.2. Enforcement of waste regulations

When enforcing the waste management by-laws, the enforcement officers were guided by the Fine Schedule Book as approved by the magistrate. The enforcement was carried out in terms of the Criminal Procedure Act and by the authorized officials. An authorized official, according to the CoJ Waste Management By-laws, was interpreted as being any official of the Council who has been authorized or designated by the Council to administer, implement and enforce the provisions of the By-laws or an employee of the service provider acting within the scope of the powers, functions and duties assigned to that service provider by the Council, if the Council for the purpose of the By-laws appointed the service provider (COJ, 2013).

The section 56 notices or citations issued to the perpetrators were captured at the licencing and prosecutions processing unit within the Johannesburg Metro Police Department after being received from the JMPD regional offices. The Unit then generated the By-laws contravention analysis report to be tabled at meetings with the internal actors/stakeholders' who were the main role-players in by-law implementation.

Table 4 below shows the citations that were mostly issued by the officers. Government officials raised a concern that enforcement officers were not holistically and completely enforcing the by-laws, and it was said that most of the time officers would focus on the "low hanging fruits", meaning that only offences related to transportation were addressed. Of twenty-two offences (22) only eighteen (18) offences had citations issued during the following financial years, that is 2013/14 FY, 2014/15 FY and 2015/16, which is 82 per cent. Most of those citations were related to collection and transportation of waste, forming 61 per cent.

Table 4: Waste offences committed during the period 2013-14 to 2015-16 FY

Offence code	Offence description
115083	Dispose of waste at a disposal facility where the disposal of waste concern is not permitted.
115106	Store waste for more than 90 consecutive days.
115114	Collect or transport of business such as bulk containerised waste stream listed in subsection (2) without having obtained from the Council and being in possession of a licence authorizing such collection and transportation.
115156	Collect or transport recyclable waste streams listed in subsection (2) without having obtained from the Council and being in possession of a licence authorizing such collection and transportation.
115172	Collect and transport building waste streams listed in subsection (2) without having obtained from the Council and being in possession of a licence authorizing such collection and transportation.
115025	Fail to cover loose waste on an open vehicle with a tarpaulin or suitable net.
115033	Cause or permit waste being transported in or through the municipal area to become detached, leak or fall from a vehicle transporting it, except at a waste disposal facility.
115122	Collect or transport industrial waste stream listed in subsection (2) without having obtained from the Council and being in possession of a licence authorizing such collection and transportation.
115091	Light a fire on a waste disposal facility without the prior written consent of the person in charge of the facility.
115180	Licence holder intentionally or negligently operates in contravention of condition of the licence concerned.
115009	Operate a vehicle for the conveyance of waste upon a public road unless the vehicle has a body of adequate size and construction for the type of waste being transported.
115075	Enter a waste disposal facility in terms of these by-laws, unless authorised to do so by the Council and then only at such times and subject to such conditions as the Council or such person may impose.

115130 Collect and transport special industrial waste streams listed in subsection (2) without having obtained from the Council and being in possession of a license authorizing such collection and transportation.

115017 Fail to maintain a vehicle used for the conveyance of waste in a clean, sanitary and roadworthy condition at all times.

115059 Incinerate waste either in a public place or private place except in an incinerator at a place where the relevant national or Gauteng authorities permit such incineration or at a place designated by the Council for that purpose.

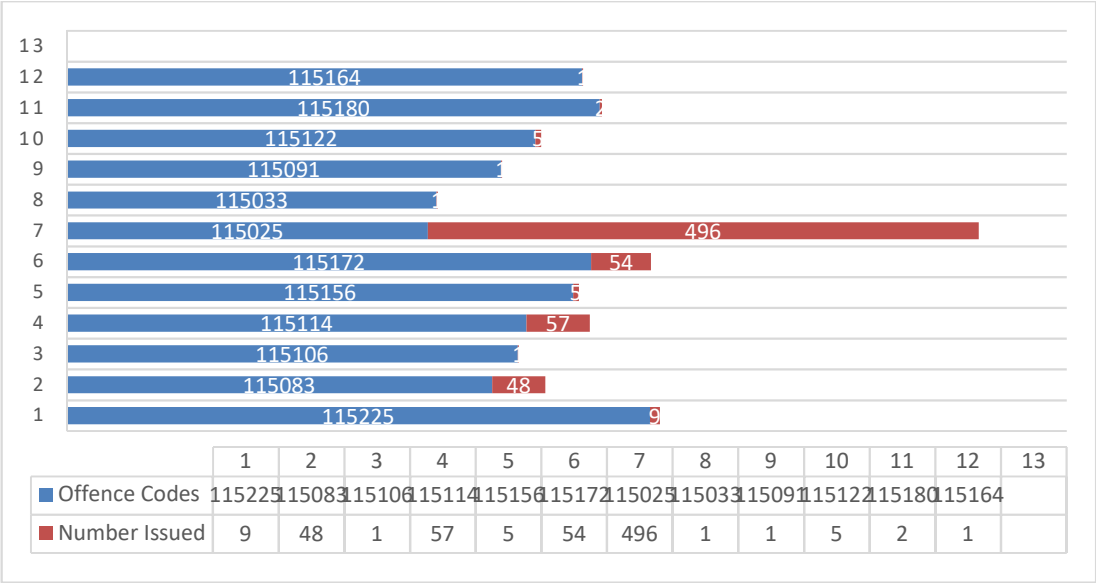
115198 Fail or refuse to give information when required to do so in terms of these by-laws, or give false or misleading information.

115203 Fail to take all reasonable steps to prevent a contravention of these by-laws, by act or an omission of his or her employee acting in the course and scope of his or her duties.

115164 Collect or transport of health care risk waste streams listed in subsection (2) without having obtain from Council and being in possession of a licence authorizing such collection and transportation.

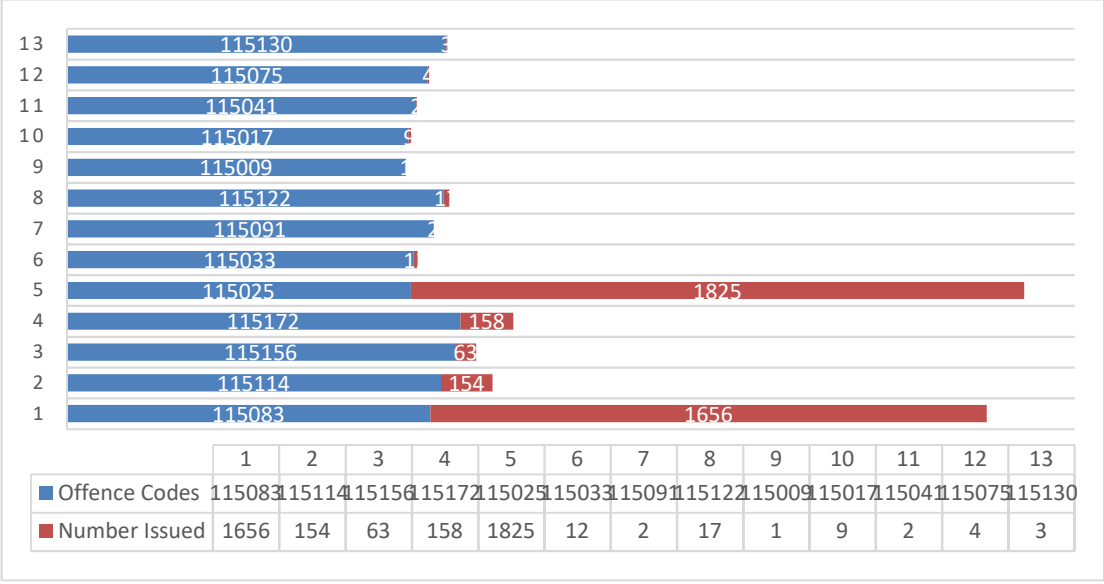
When analysing the citations issued for financial years 2013/14, 2014/15 and 2015/16 in terms of which offences were most prevalent against the offences that respondents mentioned as being the most frequently committed, the following figures gave the comparative and trend analysis of offences during the said periods.

Figure 12: 2013-14 Waste Citations Issued



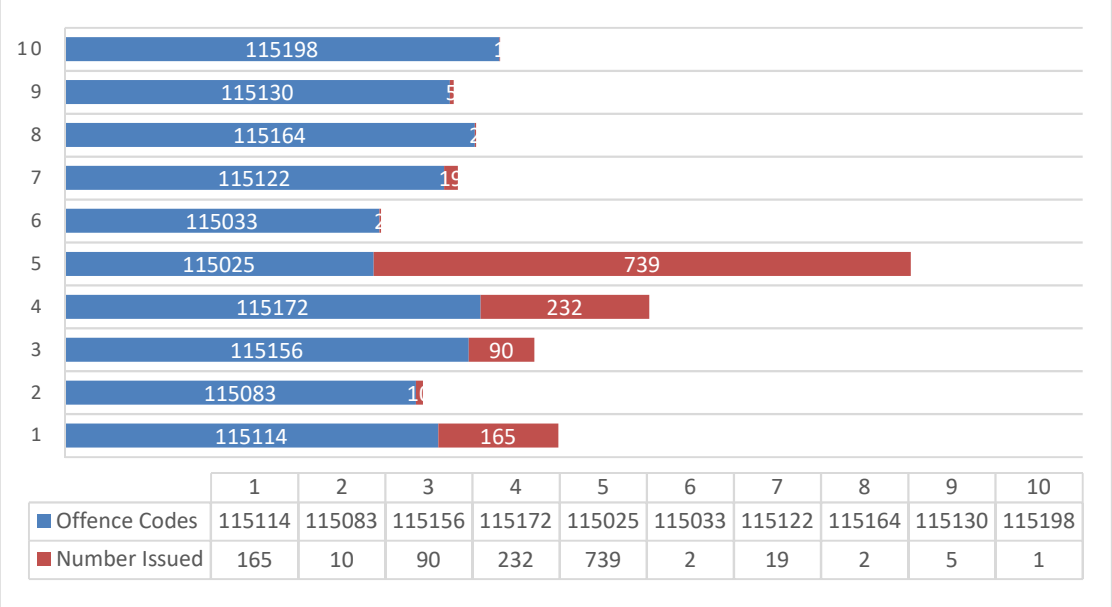
	1	2	3	4	5	6	7	8	9	10	11	12	13
Offence Codes	115225	115083	115106	115114	115156	115172	115025	115033	115091	115122	115180	115164	
Number Issued	9	48	1	57	5	54	496	1	1	5	2	1	

Figure 13: 2014-15 Waste Citations Issued



	1	2	3	4	5	6	7	8	9	10	11	12	13
Offence Codes	115083	115114	115156	115172	115025	115033	115091	115122	115009	115017	115041	115075	115130
Number Issued	1656	154	63	158	1825	12	2	17	1	9	2	4	3

Figure 14: 2015-16 Waste Citations Issued



	1	2	3	4	5	6	7	8	9	10
Offence Codes	115114	115083	115156	115172	115025	115033	115122	115164	115130	115198
Number Issued	165	10	90	232	739	2	19	2	5	1

The records on the waste citations as reflected in the three graphs above showed that the following waste offences had more citations issued.

i) Financial Year 2013-14:

Table 5: Most committed offences in 2013-14 FY

Offence Code	Offence Description
115025	Fail to cover loose waste on an open vehicle with a tarpaulin or suitable net.
115114	Collect or transport business (bulk containerised waste stream listed in subsection (2)) without having obtained from the Council and being in possession of a licence authorizing such collection and transportation.
115122	Collect or transport industrial waste stream listed in subsection (2) without having obtained from the Council and being in possession of a licence authorizing such collection and transportation.
115083	Dispose of waste at a disposal facility where the disposal of waste concern is not permitted.

ii) Financial Year 2014-15

Table 6: **Most committed offences in 2014-15 FY**

Offence Code	Offence Description
115025	Fail to cover loose waste on an open vehicle with a tarpaulin or suitable net.
115114	Collect or transport business (bulk containerised waste stream listed in subsection (2)) without having obtained from the Council and being in possession of a licence authorizing such collection and transportation.
115172	Collect and transport building waste streams listed in subsection (2) without having obtained from Council and being in possession of a licence authorizing such collection and transportation.
115083	Dispose of waste at a disposal facility where the disposal of waste concern is not permitted.
115156	Collect or transport recyclable waste streams listed in subsection (2) without having obtained from the Council and being in possession of a licence authorizing such collection and transportation.

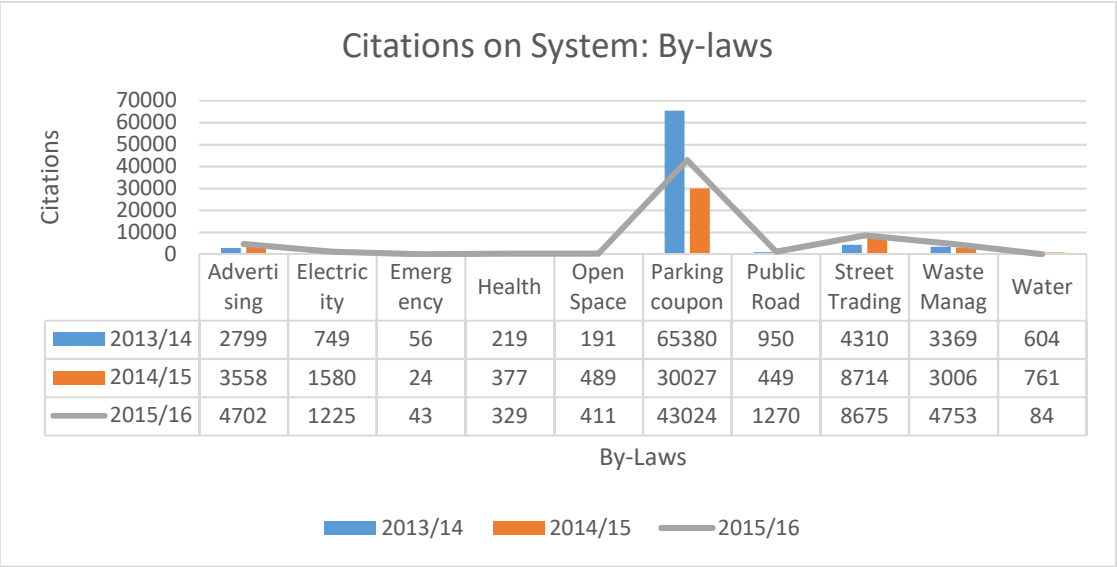
iii) Financial Year 2015-16

Table 7: Most committed offences in 2015-16 FY

Offence Code	Offence Description
115025	Fail to cover loose waste on an open vehicle with a tarpaulin or suitable net.
115114	Collect or transport of business (bulk containerised waste stream listed in subsection (2) without having obtained from the Council and being the possession of a licence authorizing such collection and transportation.
115172	Collect and transport building waste streams listed in subsection (2) without having obtained from the Council and being in possession of a licence authorizing such collection and transportation.
115156	Collect or transport recyclable waste streams listed in subsection (2) without having obtained from the Council and being in possession of a licence authorizing such collection and transportation.

Figure 15 below depicts waste management by-laws as compared with other priority by-laws citywide (Annexures C, D and E).

Figure 15: Citations on different priority By-laws



4.6.5 Theme 3: Public Value of Waste Services

4.6.5.1 Input considerations

The CoJ developed the IWM Policy which has clearly defined key waste priority areas on which to focus. One of those areas was the focus on resources. To give effect to that objective, the IWM Plan explains the Capacity and Human Resource goal with clearly defined objectives and targets.

The Objectives include additional technical capacity developed to deal with norms and standards, industry regulation and remediation, EMI capacity expanded to deal with Waste Act and By-laws implementation, and private sector capacity mobilized to support waste service delivery and community based collection models (CoJ, 2011). The set targets are:

- Vacant post to be filled within 6 months of the vacancy being created;

- Annual monitoring of the developing plans for the internal staff in line with the needs of the CoJ e.g. EMI training;
- Waste Public Private Partnership (PPP) and/or community-based waste collection models to be implemented.

4.6.5.2 Output considerations

The Integrated Waste Management Policy as adopted by the CoJ was the development intervention aimed at addressing challenges pertaining to waste management. The desired products or results of that intervention were clearly stipulated in the policy. Subsequently the plan outlined how those results were going to be realized. The outputs that were directly linked to this study included:

i. Integrated Planning Objectives: Develop and submit IWMP to provincial department for approval and ensure inclusion of the approved IWMP into the IDP, ensure capacity building for all stakeholders relevant to the successful implementation of the IWMP, and enforce strict control and performance monitoring of the implementation of the IWMP by all key stakeholders.
ii. Effective Service Delivery: Extend at least basic waste management services to all within the CoJ, ensure efficient and effective waste management services, and implement the free basic refuse removal policy.
iii. Compliance & Enforcement: Conduct systematic monitoring of compliance with regulations and permit conditions, create a culture of compliance with by-laws, and ensure successful prosecutions of waste offenders.
iv. Pollution Control: Minimise illegal dumping and littering through sustainable programmes combining clean-up programmes, awareness and education programmes as well as enforcement of the by-laws.

v. Capacity & Human Resource: Additional technical capacity should be developed to deal with norms and standards, industry regulation and remediation, EMI capacity expanded to deal with Waste Act and By-laws implementation, and private sector capacity mobilized to support waste service delivery and community-based collection models.
vi. Performance Monitoring and Reporting: Implement systematic monitoring of key performance indicators by all relevant sections/departments in the CoJ and Pikitup as per the requirements of the plan, reporting on the key performance indicators in line with provincial and national requirements.
vii. Co-operative governance: Enable information sharing, influence strategic decisions made in the form of legislation, policies, plans and strategies in order to maximise efficiency and utilization of resources.

4.6.5.3 Waste services provision

One of the Waste Policy objectives was to provide instruction on the implementation of integrated waste management principles with respect to the waste hierarchy in order to address challenges of waste service delivery, and illegal dumping. The waste plan outlined specific targets set for ensuring efficient and effective waste management services. The following activities were identified with timelines and allocated to individual departments and/or entities:

- Adhere to the standards for street cleaning as set by provincial government;
- Set standards for services provided to low income areas and informal settlements; and
- Develop education and awareness programmes.

Pikitup annual reports provided information on the level of waste management services rendered to CoJ residents and reported performance under the following key performance areas:

- To provide effective and efficient waste management services (RCR, Street Cleaning, Illegal Dumping, Informal Settlement, Hostel Cleaning, Garden Sites, Bulk Dallies, Customer Data Clean Up, Inner City, Fleet & Landfills);
- Queries resolution, education and awareness campaigns;
- Clean-up campaign and number of illegal dumping spots cleared; and
- Stakeholder management and communication.

4.6.6 Theme 4: Leadership in Waste Management

4.6.6.1 Leadership style & accountability

The information on leadership and accountability was to a certain extent covered in the sections that deal with institutional arrangements and measures of bureaucratic autonomy above.

4.7 CONCLUSION

Study findings resulted in four (4) themes which were derived from various codes as the main findings. These themes were: 1) waste regulation measures, 2) waste governance model, 3) leadership in waste management, and 4) public value of waste services. Codes under theme one were compliance monitoring and enforcement. Theme two had six codes, namely measures of bureaucratic autonomy, capacity measures, monitoring and evaluation, institutional arrangements, policy implementation, and policy and strategy. Theme three only had two (2) codes which were leadership and accountability. The fourth and final theme

had three codes which were input consideration, output consideration, and waste service delivery.

Under the waste governance model theme, key actors in CoJ waste governance were identified together with their responsibilities. The institutional arrangements for those actors was further mentioned in the waste plan and confirmed during the interview. Furthermore, the capacity measures as stipulated from waste policy and plans were discussed. The Waste plan made provision for how the implementation of the waste plan was supposed to be monitored and evaluated with specific targets set. Only two codes came up under waste regulatory measures. The first one was compliance monitoring where different offences as mentioned from the fine schedule book were compared with the actual citations issued to the infringers. The second was the enforcement code. The trend analysis over three consecutive financial years was developed which examined the most prominent offences subjected to enforcement.

There was a clear concern about the style of leadership and accountability from those trusted with leadership roles. The public value of waste services theme had input and output considerations together with the type of waste services provided to the CoJ community as codes. The study findings in this chapter concluded with these themes which will then form the basis of interpretation and analysis of the findings in the next chapter.

CHAPTER FIVE
INTERPRETATION AND ANALYSIS OF THE FINDINGS

5.1 INTRODUCTION

Chapter five provides interpretation and analysis of the findings. This begins by reflecting on the problem statement in section 5.2 followed by the conceptual framework in section 5.3. The interpretation and analysis of what members of the community experienced and understood will be covered in subsection 5.4. The experiences and understanding shared by government officials will be dealt with in section 5.5. The chapter concludes with section 5.6.

5.2 PROBLEM STATEMENT

Waste regulation implementation in the CoJ has experienced challenges that manifested in the form of high levels of littering and illegal dumped waste. The annual report on waste service provision showed an increase in tonnages of illegal dumped waste from 229,709 tons in the 2013/2014 financial year to 276,806 tons in the 2014/2015 financial year. This was a 20% increase in illegally dumped waste. However, the report was silent on waste offenders and regulatory actions taken against them in an attempt to discourage and reduce the rate of illegally dumped waste. Considering the negative environmental, social and economic impacts associated with poorly disposed waste, it was apparent that the capacity of waste governance that supports and ensures the efficient and effective implementation of waste regulation in the CoJ needed to be examined.

5.3 CONCEPTUAL FRAMEWORK

The literature review process lead to two main concepts that formed the conceptual framework of the study, namely regulation and governance. Dijk

and Oduro-Kwarteng (2007) defines regulation as sustained and focused control exercised by the public agency over the activities valued by a community. Fukuyama (2013) defines governance as government's ability to make and enforce rules and to deliver services regardless of whether the government is democratic or not. The public agency and government studied was the City of Johannesburg Metropolitan Municipality (CoJ) which was mandated by the South African Constitution to provide waste management services to its citizens. Waste management services was the activity that was valued by CoJ citizens and paid for. The objective of the study was to examine the extent to which waste regulation framework in the CoJ was implemented in a focused and sustained manner.

The ability of the CoJ waste management governance in addressing waste issues was analysed. The analysis included the institutional arrangements selected by the CoJ to deliver waste management services. Agumuthi, Khidzir and Humid (2009) identifies four drivers of sustainable waste management and the institutional driver was one of them. Institutional drivers encourage knowledge or evidence-based policies and strategies, given the proximity between legislators, business and research (Agumuthi, et al., 2009, p. 631). Abas and Wee (2015) states that sustainable solid waste management is an indicator of the effectiveness of solid waste management in terms of policy, systems and institutions.

As suggested by the Habitat World Forum (UN, 2001), the cleanliness of a city and the effectiveness of its solid waste management system may reasonably be used as a proxy indicator of good governance. Oteng-Ababio, et al., (2013) supports the view of the United Nations/Habitat World Forum which suggests that in Africa as in other world cities, solid waste management is one of the local government functions, and proper handling of this function is taken as an indicator of the success of urban reform. When emphasizing the importance of good governance, Wilson (2007) observes that the United Kingdom's Department for International Development has

made a case for using the state of waste management in a city as an indicator to monitor the success of good governance programmes. Where waste management is working well it is likely that the city has also addressed underlying issues relating to management structures, contracting procedures, labour practices, accounting, cost recovery and corruption (Wilson, 2007).

Different authors have written about waste management challenges and constraints faced by cities locally and abroad. Newell, Pattberg and Schroeder (2012), when looking at multi-actor governance and the environment concludes that traditionally modes of state-based regulation have come to be seen as limited in their reach, effectiveness, authority and legitimacy. Manga, Forton and Read (2007) emphasizes that the extensive statutory instruments and regulations related to waste management are often either incomplete or not enforced. From the literature that was reviewed, the limited in-depth description of waste governance and regulation at cities or local government level was observed. The need to analyse and evaluate governance and regulation frameworks of waste management and further examine the views and experiences of the key stakeholders was then identified.

When evaluating the quality of waste governance within the CoJ, the approach developed by Fukuyama (2013) was adopted, which distinguishes four broad approaches to evaluating quality of governance; that is, procedural measures, capacity measures, output measures, and measures of bureaucratic autonomy. Procedural measures look at the process followed in acquiring technocratic capacity. It is further concerned with how recruitment and promotion of employees is done (Fukuyama, 2013, p. 7). On the other hand, capacity measures are concerned with the technocratic capacity of the government officials. This is a critical measure of capacity that focuses on level of education and professionalization of government officials. Fukuyama (2013) observes that “in modern

organisations highly educated professionals are trusted with a much higher degree of discretion because it is assumed or hoped that they will be guided by internal norms in cases where their behaviour cannot be monitored from the outside" (Fukuyama, 2013, p. 8).

The output measures the final products of development intervention. In this context, waste regulatory strategic goals and objectives were analysed (Fukuyama, 2013, p. 8). This was then compared with the actual results achieved after the implementation process. Measures of bureaucratic autonomy assisted in looking at what mandates were given to each actor or stakeholder in the whole waste regulatory framework regime. Each actor had a responsible mandate given by political principals to act on. It was critical to examine these mandates to see if there were any conflicting ones and to what extent that was impeding waste governance.

Fukuyama's approaches were adopted together with the issues-driven analytical framework to evaluate the waste management policy drivers. Abas and Wee (2015) observes that the challenge of ineffective solid waste management policy implementation occurs in most developing countries due to several factors. These factors include poor governance on the ground, lack of commitment among stakeholders, ineffective policy monitoring and co-ordination and neglected social dimensions in the policy development (Abas & Wee, 2015, p. 2). Drawing on these four factors that influence governance practice in policy implementation assisted in further understanding waste governance in the CoJ. The factors that influence governance practice involve clarity of policy context, stakeholder competency, resource allocations and stakeholder management system (Abas & Wee, 2015). Looking scholars from this passage it may be deduced that the pivotal reference point in evaluating waste governance and regulation was clear.

5.4 GOVERNMENT OFFICIALS

5.4.1. Theme 1: Waste Governance Model

i) Waste policy and strategy

Most respondents displayed a lack of knowledge about what is reflected in the IWM Policy and the IWM Plan with the exception of those who were directly involved in the formulation of those documents The situation at the CoJ indicated a lack of commitment among stakeholders which contributed to ineffective policy co-ordination and implementation. These two factors were observed by Abas and Wee (2015) as being key contributors towards the ineffectiveness of solid waste management policy implementation which occurred in most developing countries. It further indicated poor governance on the ground where challenges were supposed to be tackled vigorously.

Abas and Wee (2015) articulates the factors that influence governance practice. The first is the clarity of policy context. The CoJ IWM Policy is a well contextualized document and relevant to CoJ waste pressures and challenges that ought to be addressed. The Policy statement stipulates the main purpose and desired change which includes provision for integrated waste management by-laws to regulate waste generation and waste services delivery. Furthermore, the waste plan is clear on key priority areas with specific targets and responsibilities assigned to different stakeholders to be delivered on predetermined dates. There could be no doubt about who should do what. However, the consistent and continuous effort to cultivate the sense of shared policy purpose amongst key actors was found wanting.

ii) Institutional arrangements

The institutional driver was one of the four drivers of sustainable waste management identified by Agumuthi, Khidzir and Humid (2009). Institutional drivers encourage knowledge or evidence-based policies and

strategies given the proximity between legislators, business and research (Agumuthi, et al., 2009).

There were four identified key actors with distinguishable roles in waste governance in the CoJ. Each actor had a significant contribution to make towards the CoJ in order to perform its waste governance obligation, based on Fukuyama's (2013) definition of governance as government's ability to make and enforce rules and to deliver services regardless of whether the government is democratic or not. The EISD and LS&CD were key players in formulating waste by-laws and ensuring the legality thereof, while the JMPD was mandated to perform the enforcement part and Pikitup was entrusted with delivery of waste services to CoJ residents.

It was observed that those institutions were mutually exclusive while interdependent on each other. They were accountable to different independent principals. As much as there were clearly defined roles from the IWM Plan for each actor, it emerged that the targets set in the IWM Plan did not always find a place in the departmental scorecards. Hence there was little reporting on the IWM Plan's implementation from most actors. At the head of the institution level, the waste policy statement was not always recognized and filtered down to lower level structures. The ineffectiveness of policy implementation emanated from that scenario. It appeared that the evidence of policy implementation performance was not entirely convincing.

One of the key performance areas from the IWM Plan was co-operative governance. The main objective of that key performance area was to enable information sharing, to influence strategic decisions made in the form of legislation, policies, plans and strategies, and to maximise efficiency and utilization of resources. To realize these objectives, the Waste Management Officer (WMO) was designated in terms of the Waste Act. The main role of the WMO was to co-ordinate all waste management activities within the CoJ (CoJ, 2011). The findings indicated that the role was not adequately

performed hence the lack of planning together and marshalling towards a joint effort. There was an indication of the need for strategic leadership in that area. That type of leadership would have brought about the ability to anticipate, envision, maintain flexibility, think strategically and work with others to initiate change (Ireland & Hitt, 2005).

iii) Waste policy implementation

To support the implementation of the IWM Policy and further ensure integrated planning and reporting, the IWM Plan advocates that all relevant stakeholders should prepare annual reports on the IWM Plan implementation progress. All key stakeholders should have developed operational plans based on the IWM Plan within six months of the approval of the IWM Policy (CoJ, 2011). Engaging with different officials, almost none of them provided a copy of such plan; it was assumed that departmental scorecards to a certain extent were linked to that plan and consequently quarterly performance reports.

Abas and Wee (2015) observes that the issue of ineffectiveness of solid waste management policy implementation occurs in most developing countries due to several factors. One of the factors is ineffective policy monitoring and co-ordination. It was evident that there was a lack of co-ordinated effort towards waste policy implementation amongst the actors in the CoJ. This was confirmed by information on social capital. Social capital in the context of the nature of relations between actors depends on setting up relations based on solidarity, trust and reciprocity, mutual support for the actions agreed upon and a shared sense of purpose or mutual interdependency.

Most actors experienced some difficulty in committing to what was agreed upon and reflected in the CoJ IWM Plan which should have been binding as a statutory document. Such a situation questioned the existence of a participative, shared delegation and empowerment type of leadership within

the organisation. As explained by Davine, Clayton, Phillips, Dunford and Melner (1999), such leadership benefits organisations that operate within complex and turbulent environments since it provides team members and executive decision-makers with greater access to the social and material capital needed to adapt their strategies to changing contexts thereby enabling greater organisational flexibility and performance.

iv) Measures of bureaucratic autonomy

The responsibilities allocated to each actor in accordance with their mandate and obligations reflected in the IWM Plan was not entirely addressed by most officials. Officials were more concerned about their day-to-day operations while not highlighting how those daily activities were linked to the attainment of policy objectives. What stood out was the conflicting expectations with regard to by-law enforcement and performance reporting on by-laws infringers. These mismatched expectations were seen amongst the three key actors who were Pikitup, JMPD and EISD.

The continued illegal dumping of waste which seemed unmanageable suggests that Pikitup was not sufficiently involved in addressing that challenge. Although Pikitup developed the strategy document aimed at preventing and managing littering and illegal dumped waste, the implementation of the strategy remained a challenge based on insufficient resources being available.

The mandate given to the JMPD in terms of enforcing waste management by-laws results in a lack of clarity amongst the respondents. This notion was strongly supported by the experience of both Pikitup and EISD where they were expected to provide resources to JMPD so that waste by-laws can be enforced. The question was then why JMPD cannot itself mobilise the required resources to comply with their mandate.

The role of the EISD as a regulator supposedly expected to pioneer the development and implementation of waste regulation was doubted by some respondents who questioned whether EISD was doing enough to fulfil that mandate. The issue of misconstruction of the Pikitup role with regard to what Pikitup was supposed to do and not do was raised strongly. That indicated a lack of clear understanding of the obligations between EISD and Pikitup, where there were grey areas. It was clear from the sentiments shared by the respondents that poor performance by each actor was to a large extent based on how each stakeholder had access to power, including the power to mobilise resources.

In comparing what was stated from the IWM Plan regarding the responsibilities of different actors, each actor had clearly defined roles aimed at supporting the implementation of the IWM Plan, and in so doing, contributing to the realization of the IWM Policy goals. However, that was impeded by the lack of access to resources and limited political capital. The interesting question was raised of whether the available resources were optimally utilized and how actors were willing to share resources to avoid duplication of tasks in some instances. It was noted that even if actors submit their resource requirements in the form of a budget, there will inevitably be budget cuts and yet the mandate remained the same. This contributed to frustrations as to how they were expected to deliver on the expanding mandate without adequate means.

Both the material and political capitals that were required to ensure fulfilment of obligations by different actors were compromised. Material capitals like financial and other tangible resources that must be made available to actors commensurate with the main waste policy agenda were insufficient. Equally, political capital as the power or capacity to mobilize resources and take action, and power relations amongst actors, left much to be desired.

v) Capacity measures

Capacity measures are concerned with the technocratic capacity of the government officials. This is a critical measure of capacity that focuses on the level of education and professionalization of government officials. (Fukuyama, 2013). Actors were at different levels with regard to their technocratic capacity. Officials like key environmental management specialists and law enforcers were technocrats in their own right. The deficit in capacity and competency was only manifested when one actor had to play a supportive role towards meeting the mandate of the next actor. A case in point was when JMPD officials were expected to enforce waste management by-laws. The interpretation and understanding of the terminology used became a challenge. That was simply because JMPD officers were traffic legislation custodians and their training focus and priority was on enforcing traffic legislation.

However, one of the key performance areas stated in the IWM Plan recognized that gap and had specific objectives directed at capacity building for all stakeholders relevant to the successful implementation of the IWM Policy. There were limited efforts made as reflected in annual reports of such activities being undertaken and directly linked to the realization of waste policy objectives. EISD had some of the officials trained as EMIs and who were then practising with limited powers. There were others trained as peace officers who never practiced or exercised this function despite the need to improve waste by-laws implementation.

Knowledge resources were available amongst the actors but the challenge lay in the sharing of information between the actors and creating platforms for continuous engagement. These factors were critical to governance practice. Abas and Wee (2015) suggests that when alluding to factors that influence governance practice which involve stakeholder competency, resource allocation and stakeholder management systems, the need for

empowerment, and a participative and shared leadership approach was lacking to drive those factors alluded to by Abas and Wee (2015).

vi) Monitoring and evaluation

The system put in place to monitor the implementation of waste policy did not emerge clearly and yet is very important. Data management on results of waste by-laws enforcement to be shared by most respondents seemed to be inaccessible. It was evident that the key performance area on performance monitoring and reporting as stated in the IWM Plan was not fully taken into account. It had a clear objective which was the implementation of systematic monitoring of key performance indicators by all relevant sections/departments in the CoJ and Pikitup in accordance with the requirements of the plan and reporting on them. It was expected that reliable data would be collected and annual performance reports submitted. There was, however, no evidence of such information. Although there was a waste information system developed, its capability and functionality was limited. Reports produced by the system were mainly in regard to compliance levels of waste management activities and progress on how CoJ was performing with regard to waste reduction. However, the reliability of that data was not convincing. The ineffectiveness in solid waste management policy implementation occurred mostly due to ineffective policy monitoring, which was a case in point at CoJ (Abas & Wee, 2015).

5.4.2. Theme 2: Waste Regulation Measures

What was viewed as the most frequently committed waste offences compared to what by-laws enforcers focused on when issuing citations depicted some contradictions. Most respondents felt that illegal dumped waste and littering were the most committed offences, whereas analysis of waste contraventions during three consecutive financial years disclosed that the main citations issued to waste offenders were, 1) failure to cover loose waste on an open vehicle with a tarpaulin or suitable net, 2) collection

and transportation of building waste streams listed without having obtained permission from the Council and being in possession of a licence authorizing such collection and transportation, and 3) the disposal of waste at a disposal facility where the disposal of waste concern was not permitted (CoJ, 2013).

The disjuncture confirmed what most respondents had pointed out when stating that enforcement officers mostly focus on traffic related waste offences normally known as “low hanging fruits”. There was no aggressive action taken against infringers conducting illegal dumping of waste. Of equal concern was the number of queries reported on illegally dumped waste. For two consecutive financial years, which were 2014/15 and 2015/16 (Figure 4), the queries on stolen bins rated highly followed by requests for new services and damaged bins before illegally dumped waste (Pikitup, 2015). The EISD report on environmental complaints and queries for three consecutive years (Figure 5) reflected a minimal number of illegal dumping cases dealt with in conjunction with EMI activities. The EISD further reported on compliance levels of waste management activities, landfill site compliance and records on waste reduction.

Documents analysed, such as annual reports from Pikitup and EISD, reflected efforts made towards education and awareness, such as clean-up campaigns, but were not clear in terms of how far such initiatives were contributing towards the IWM Plan target on pollution control. The target stated in the IWM Plan was to reduce by 50% incidents of pollution that occur as a result of poor waste management (CoJ IWM Plan, 2011). There was a lack of collaboration between environmental management inspectors and waste by-laws enforcers, which was the relationship that could improve waste by-laws enforcement. The disjuncture between the fines schedule book and waste management by-laws was of concern.

Waste contraventions listed in the fines book were still based on the old by-laws after three years whereas the latest promulgated waste by-laws had made aggressive and vigorous provision to address waste malpractices. (CoJ, 2013). The role of the municipal courts and prosecutions was not only crippled by the misalignment of the fines book and the current by-laws but also by the un-prosecutable cases and non-enforceable waste management by-laws based on how they were written. Un-prosecutable cases were also due to the poor quality of the issued section 56 notices based on officer errors and system defects. That situation aligned with what was observed by Manga, Forton and Read (2007) when stating that the extensive statutory instruments and regulations related to waste management are often either incomplete or not enforced.

Dijk and Oduro-Kwarteng (2007) defines regulation as a sustained and focused control exercised by public agency over activities valued by a community. The waste regulatory framework at the CoJ was not characterised as focused and sustained since it was incomplete and poorly enforced. To deal with that situation required some combination of leadership approaches.

5.4.3 Theme 3: Public Value of Waste Services

Members of the regulated community were subjected to different forms of waste contraventions. There were innocent citizens who became victims of the situation due to those residents who did not comply with the by-laws. Nevertheless the CoJ had the obligation of ensuring that waste standards as stipulated in both provincial and national legislation were upheld. Such standards were further contemplated in the local waste legislative instruments. The standard of waste services provided was not consistent throughout the CoJ which raised concerns about the public value of waste services. Moore (2013) describes public value as value creation and legitimacy; however, public managers have to lay out public value on the

strategic triangle for themselves, the organisation and their overseers. It was evident that the CoJ had challenges in creating acceptable value around waste services, while citizens valued waste services provided and expected to pay for it. Supporting the definition of public value, Bennington (2012) contends that value is also viewed as a conceptual framework to inform and inspire reform and improvement of public services and also deepen democratic and deliberative processes.

Continued illegal dumping of waste as analysed in the three consecutive years (Figure 8) showed an alarming increase. An indication of the failure in addressing waste management underlying issues impacts directly on waste governance regulations that are put in place to deal with the cleanliness of a town. Habitat World Forum (UN, 2001) has observed that the cleanliness of the city and the effectiveness of its solid waste management system functions could be used as a proxy indicator of good governance. The state of waste management mostly in townships and informal settlements indicated, however, that the CoJ was not making positive strides and attested to Wilson's (2007) observation that the state of waste management in a City can be used as an indicator to monitor the success of good governance programmes was synonymous with the CoJ situation. Poor governance on the ground was also viewed by Abas and Wee (2015) as one of the factors contributing to the ineffectiveness of solid waste management policy implementation.

5.4.4. Theme 4: Leadership in Waste Management

The improvement in leadership with regard to waste management focusing on strategic leadership, transformational leadership, participative, shared and empowerment leadership and accountability was required and essential at CoJ. Circumstances that were allowed to prevail and were exacerbated over the years were an indication of a dire need for intervention at strategic level. The sequence of events that lead to unmanageable illegal

dumping and littering should have triggered the change in strategic direction before things became unmanageable. Strategic managers should have anticipated the challenges and applied strategic thinking in working with others to bring about the required change.

As indicated above, the waste policy and plan clearly articulated the desired change at CoJ but lacked leadership that would have boldly ensured successful implementation. Leadership is characterized by attributes like sharing of information for decisive decision-making, which encourages and promotes the active participation of actors by creating platforms for engagement and continuously empowering others through well-crafted capacity development action plans. Fukuyama (2013) observes that “in modern organisations highly educated professionals are trusted with a much higher degree of discretion because it is assumed or hoped that they will be guided by internal norms in cases where their behaviour cannot be monitored from the outside”. While professionals were trusted with a high degree of discretion as alluded to by Fukuyama (2013), too much trust can be dangerous if not accompanied by continuously reviewed procedures and independently monitored. This could be the case with educated professionals from CoJ.

5.5 COMMUNITY & CIVIL SOCIETY MEMBERS

5.5.1 Theme 1: Waste Governance Model

The CoJ had done well in terms of partnering with community based contractors to deliver on waste recycling programmes. Each region had two or more co-operatives established. There were 26 co-operatives established citywide. The key performance area related to public-community partnerships had attainable targets (CoJ, 2011).

Pikitup had a well-planned support programme for co-operatives. Co-operatives were supported with refuse collection truck(s) which came with a driver and were provided with facilities from where they operated. Those facilities were either a garden site or closed landfill site. That effort was viewed as considering the social dimension of waste policy development. Abas and Wee (2015) observes that the issue of ineffectiveness of solid waste management policy implementation occurred in most developing countries due to several factors, one of which was the neglected social dimension in the policy development. There was thus good reason to believe that the social dimension was not neglected.

5.5.2 Theme 2: Waste Regulatory Measures

Community members experienced the negative effects of poor by-law enforcement and sub-standard waste service delivery especially those residing in informal settlements and townships. Of concern to community members was when reported cases were not swiftly attended to and there was a lack of visible policing. Waste services were not yet fully extended to the informal settlements and townships. The IWM Plan objective to extend waste services to all within the CoJ and ensure that set standards for services provided were complied with was not realized (CoJ, 2011).

Waste recyclers experienced a new form of waste offence which was the stealing of waste recyclables. Those recyclables were either stolen by informal recyclers or by syndicates linked to their employees and security guards from where they operated. It was suspected that big businesses were involved in the syndicate since competition for waste recyclables had increased. There was no support from law enforcers as such offences were not taken seriously and officers often viewed such misdemeanours as trivial, based on a lack of understanding of the monetary value of recyclables and how business was negatively affected on production costs. While the CoJ had made provision in the Waste Management By-laws to regulate waste

management activities such as waste recyclers, the need for support on regulating the stealing of recyclables was expressed (CoJ, 2013).

5.5.3 Theme 3: Public Value of Waste Services

Based on waste services challenges raised by community and civil society members, the CoJ was far from achieving effective waste service delivery. There was a noticeable effort to extend basic waste management services to all within the CoJ, which included informal settlements and hostels. It was noticed that targeted cleanliness levels for the suburban areas were different from those set for low income areas. For example, cleanliness level 1 was the most preferred in Gauteng while level 3 was the undesirable level. There were instances where the authorities would set level 3 as the targeted standard for a particular area. From the residents' perspective that simply meant that residents in that area, considered a low income area, would not experience the same levels of cleansing as higher income areas. The CoJ thus applied differentiated service levels whereas residents should be afforded equal access to waste services irrespective of where they reside. Waste collection standards should be the same and be universally applied otherwise the system of treating residents unequally was perpetuated which could be viewed to some extent as a connotation of colonialism.

On the other hand, aggressive and vigorous outcomes-based education and awareness programmes for communities at large was essential. Some residents had lost their sense of pride in their living environment and overlooked their shared responsibility as residents to take care of their environment and support the Council in that regard.

5.5.4 Theme 4: Leadership in Waste Management

Elected community leaders had a pivotal role to play in addressing waste management challenges. Issues raised in ward committee meetings and street meetings were not adequately conveyed upwards to the responsible departments. It seemed that there was no effective communication and spirit of working together amongst the structures. Community members were not given feedback on how the issues raised were dealt with and that caused unhappiness. As much as co-operatives were willing to provide education and awareness to residents, there was a strong view that if municipal departments did not play their role there would not be much difference in changing the behaviour of the community.

5.6 CONCLUSION

Four themes were interpreted and analysed in relation to the study's conceptual framework and problem statement. Two themes, namely waste governance model and waste regulatory measures linked directly to the conceptual framework and broadened the understanding of the implementation of waste regulatory framework in the CoJ. Two other themes, that is leadership in waste management and public value of waste services, brought more context and revealed the existing leadership styles and quality of services provided to CoJ residents.

CHAPTER SIX
CONCLUSION AND RECOMMENDATIONS

6.1 SUMMARY

6.1.1 Purpose statement

The purpose of this study was to assess and examine the extent to which waste regulation is capable of addressing waste contraventions, and further to analyse the ability of a waste governance system to support the implementation of the waste regulatory framework in the CoJ. The study presents the findings in relation to waste governance and the regulatory framework, interprets and analyses the findings, and on that basis draws conclusions in relation to waste governance strategies and waste regulation practices.

6.1.2 Introduction

The provision of waste management services has been a function of local authorities in most countries worldwide. Integrated sustainable waste management (ISWM) as a strategy to deliver a well-functioning waste management system has been accepted as a worldwide phenomenon. To deliver ISWM under the framework of good waste governance three interrelated requirements were distinguished during the study carried out in 20 different cities: inclusiveness, financial sustainability, sound institutions and proactive policy (United Nations, 2010). The ISWM was found to test the full range of government skills which included priority setting, strategic planning, consultation, decision-making, law-making, financial management and enforcement (Scheinberg, et al., 2010). Most cities worldwide had experienced similar waste management issues pertaining to policy commitment and the existence of clear policy frameworks that were established at municipal level in relation to sustainable solid waste

management in both strategic municipal urban plans and sector-specific waste management plans (Scheinberg, et al., 2010).

In African cities, as elsewhere, solid waste management is one of the local government functions and proper handling of this function is taken as an indicator of the success of urban reform and management (Oteng-Ababio, Arguello & Gabbay, 2013). According to Kazungu (2010, p. 2), the "rapid urbanization in African cities challenges the governance capacity of African countries and gives a clear indication of the need for adequate, efficient and reliable waste management services which are typically not found in African cities". The importance of appropriate policy context including the necessary regulation was identified as one of the main issues in Ghana and Kenya, for example, by Van Dijk and Oduro-Kwarteng, (2007, p. 1): "Waste management system requires proper policies, strategic frameworks for performance management and regulations". The solution to poor service delivery in Africa relies not only on private sector involvement but also depends on the capacity of the actors, institutional arrangements and ability of local government to monitor performance, regulate and facilitate solid waste service delivery (Van Dijk and Oduro-Kwarteng, 2007). In the assessment of regulatory frameworks, the Nairobi City Council had the responsibility for policy implementation, collection and disposal of waste, regulation and monitoring of waste companies and waste generators, and enforcement of all laws including the by-laws relating to waste and co-ordinating all actors involved in solid waste management.

In the Southern African Development Community (SADC) waste management is viewed as one of the priority issues affecting it as a result of commitment to promoting sound environmental management through pollution control, waste management and environmental education. Poor enforcement of legislation coupled with inadequate human resources and equipment were found to be contributing factors to high levels of illegal dumping of waste. In South Africa in particular, four broader themes of the

challenges facing local authorities were observed: those were financial management, equipment management, staff management and institutional behaviour with holistic planning and enforcement as the main issues. Most South African cities are characterized by non-integrated planning and poor implementation of waste plans when these do exist. There is inadequate enforcement of waste legislation and waste by-laws and the successful prosecution of waste offenders is limited (Oelofse & Godfrey, 2008).

The CoJ approved the Integrated Waste Management Policy and Plan in 2011 and Waste Management By-laws were promulgated in 2013. Similar to most cities around the world and in Africa, the CoJ experienced waste management issues that were manifested by a high degree of illegally dumped waste and littering. The implementation of the waste policy and enforcement of local level waste regulatory framework in the CoJ context was the catalyst for the study.

6.1.3 Literature Review

The literature reviewed provided insight into theories and concepts that existed in environmental management and waste management studies and research. Different authors presented debates and arguments on issues surrounding waste management system throughout the world and in Africa. For the purpose of this study the theoretical framework and conceptual framework was formulated based on the theories and concepts that enabled the researcher to gain insight and identified key issues which required examination (Neuman, 1997).

The theoretical framework covered the following concepts and theories, namely the multi-actor environmental governance, integrated solid waste management, integrated sustainable waste management, waste policy and solid waste management assessment methods. Multi-actor environmental governance simply refers to the co-operation and inclusion of different

actors in addressing environmental problems of global concern. It takes cognisance of the fact that environmental issues are complex, multifaceted and know no boundaries. Different actors include public actors, private actors, civil society, international organisations, regional environmental arrangements and public-private partnerships (Newell, Pattberg & Schroeder, 2012). The review by Newell, et al., (2012) shows that the effectiveness of multi-actor arrangements in environmental terms depend on four things: 1) the resources; 2) level of buy-in of the most powerful and relevant actors; 3) their degree of global reach; and 4) the extent to which they can mobilize sanctions in the face of non-compliance. In dealing with waste management the current and widely used waste management paradigm was integrated solid waste management as the concept that attempted to balance and harmonize all critical aspects of waste management, namely environmental effectiveness, social acceptability and economic affordability (Marshall & Farahbakhsh, 2013). Integrated solid waste management systems are tailored to specific community goals by incorporating stakeholder perspectives, needs and local context (Marshall & Farahbakhsh, 2013). When realizing the complexity and multi-dimensional nature of solid waste management in the mid-1990s, waste advisors on urban environment and development and collaborative working groups on solid waste management in the mid-1980s developed integrated sustainable waste management model (Guerrero, Maas & Hogland, 2013, p. 220). When investigating the stakeholders' actions or behaviour and factors that influence the elements of the City's waste management system, technical, environmental, legal and institutional linkages are present to enable the overall system to function, including key factors that affect the performance of the solid waste management system (Guerrero, et al., 2013). These key factors are critical in ensuring the success of the integrated sustainable waste management model. The ISWM requires adequate policies, strong regulation and appropriate legislation as a critical aspect that influences positive waste management system performance.

The study in Benin revealed constraints pertaining to the formulation and implementation of waste management policies. The lack of coherent policies and incoherent implementation coupled with obvious lack of accountability among the authorities involved in waste management was found to be the cause of poor waste management (Igbinomwanhia, 2011, p. 200). As well as having coherent policies in place, the flexible organizational structure and effective tools add a positive influence in attaining positive environmental outcomes (Geng, Tsuyoshi & Chen, 2010, p. 1000). Given the constraints and challenges facing waste management policy formulation and implementation, it is critical that an appropriate method of assessment is chosen. Any investigation of waste management systems requires an individual assessment methodology to yield reliable data and results for decision-making (Allesch & Brunner, 2014, p. 468). Correct assessment methods further assist in the identification of municipal solid waste management strategy drivers and their influence. This is an important step in understanding the future direction of a sustainable solid waste management plan (Contreras, Ishii, Aramaki, Hanaki & Connors, 2010, p. 77).

The conceptual framework that guided the study was waste governance and regulation. Van Dijk and Oduro-Kwarteng (2007) defines regulation as sustained and focused control exercised by the public agency over the activities valued by a community. Fukuyama (2013) defines governance as government's ability to make and enforce rules and to deliver services regardless of whether the government is democratic or not. The public agency studied was the City of Johannesburg Metropolitan Municipality (CoJ) which is mandated by the South African Constitution to provide waste management services for its citizens. Waste management services is the activity that is valued by CoJ citizens and which they pay for. The objective of the study was to examine to what extent the waste regulation framework in the CoJ is implemented in a focused and sustained manner.

In evaluating the quality of waste governance within the CoJ, the Fukuyama approach was adopted. Fukuyama (2013) distinguished four broad approaches to evaluating quality of governance, that is, procedural measures, capacity measures, output measures, and measures of bureaucratic autonomy. Procedural measures look at the process followed in acquiring technocratic capacity. It is further concerned with how recruitment and promotion of employees is undertaken (Fukuyama, 2013, p. 7). Capacity measures are concerned with the technocratic capacity of the government officials. This is a critical measure of capacity that focus on level of education and professionalization of government officials. Fukuyama (2013) observes that in modern organisations highly educated professionals are trusted with a higher degree of discretion because it is assumed or hoped that they will be guided by internal norms in cases where their behaviour cannot be monitored from the outside.

The output measures the final products of development intervention. In this context, waste regulatory strategic goals and objectives were analysed (Fukuyama, 2015, p. 8). This was then compared with the actual results achieved after the implementation process. Measures of bureaucratic autonomy assisted in looking at what mandates were given to each actor or stakeholder in the whole waste regulatory framework regime. Each actor had a responsible mandate given by political principal to act on. It was necessary to examine these mandates to see if there were any conflicting ones and to what extent that was impeding waste governance.

Fukuyama's approaches were adopted together with the issues-driven analytical framework to evaluate the waste management policy drivers. Abas and Wee (2015) observes that the issue of ineffectiveness of solid waste management policy implementation is seen in most developing countries as a result of poor governance on the ground, lack of commitment among stakeholders, ineffective policy monitoring and co-ordination and neglected social dimensions in policy development (Abas & Wee, 2015, p.

2). While adopting Fukuyama's approach, the four factors that influence governance practice in policy implementation assisted in further understanding waste governance in the CoJ. The factors that influence governance practice involve clarity of policy context, stakeholder competency, resource allocations and stakeholder management system (Abas & Wee, 2015).

6.1.4 Research Methodology

Since the researcher was concerned about understanding the processes, and the social and cultural context that shaped the behavioural patterns of the respondents, the approach of this study was a qualitative one (Wagner, et al., 2012). Interpretive paradigm was the chosen philosophical basis of this study. Neuman (2006) defines the interpretive approach as the systematic analysis of socially meaningful action through the direct detailed observation of people in natural settings in order to arrive at understandings and interpretations of how people create and maintain their social worlds. The researcher's intention was to obtain a deep understanding of waste regulation implementation within the waste governance model at the CoJ.

Qualitative case study research design was the study approach because it assisted the researcher to explore the phenomenon within its context using a variety of data sources, which were primary and secondary sources (Baxter & Jack, 2008). The CoJ then became the case study and officials from different departments together with members of the community and civil society were identified units of analysis. Semi-structured interviews with the officials and members of the community and civil society was the data collection method used for primary data while document analysis was used to collect secondary data.

Non-probability and purposive sampling method was preferred for this study since the researcher had experience in environmental management and

there were budgetary and time constraints. To ensure trustworthiness, validity was replaced with credibility due to the nature of the study being a qualitative research study. Credibility is consistent with internal validity in the quantitative research enquiry (Bryman, 2012). To ensure credibility, participant validation was the strategy used. The purpose was to verify the researcher's understanding with participants (Wagner, et al., 2012). The applicability, dependability and confirmability as criteria for trustworthiness was used as a replacement for reliability (Wagner, et al., 2012). The exact steps taken in the research were explained in detail so that the reader can see how findings were derived. Triangulation of data collection methods to establish reliability was employed through coupling interviews with observing the participants' non-verbal communications, as well as drawing on document analysis.

The inductive approach was applied in analysing data, especially primary data. This approach was chosen because the researcher wanted to describe the phenomenon and approached the analysis from the data level, then looking at the data more broadly. The codes were identified from data and not from preconceived codes from existing literature, researcher views and beliefs, or knowledge of the specific data (Wagner, et al., 2012). Emerging themes/categories codes were analysed using thematic analysis. Understanding the meaning of the data by identifying and analysing themes was a technique shared across qualitative data analysis approaches (Wagner, et al., 2012, p. 231). Themes were identified by checking the repetitions, synonyms and colloquial sayings (Bryman, 2012).

6.1.5 Presentation of the findings

Research findings yielded four broad themes being concluded after the interpretation of interviews with government officials, members of civil society, community members and document analysis. The first theme was the waste governance model which was derived from six codes which were

measures of bureaucratic autonomy, capacity measures, monitoring and evaluation, institutional arrangement, waste policy implementation, waste policy and strategy development.

Measures of bureaucratic autonomy assisted in looking at what mandates and obligations were given to each actor or stakeholder (Fukuyama, 2013). The IWM Plan identified key actors in waste management together with their responsibilities. It was evident that not all actors fulfilled their mandate and obligations. This was due to a number of factors that included limited access to resources and political capital. Both technocratic capacity and material capital limited actors in fulfilling their obligations due to budgetary constraints. The existing waste policy and plan was not effectively monitored. Government officials could not provide the policy monitoring report with findings and suggested interventions to improve its implementation. Institutions or departments had no coherent system to drive the implementation of the waste policy and the plan. The strategic leadership to drive the IWM Plan was lacking.

Social capital required to bring together key actors involved in waste governance was insufficient. Actors did not co-ordinate their efforts and continue to operate in silos. Co-ordination, where this is in place, is between one or two actors but not exercised within a well-defined platform created for that purpose.

The second theme was waste regulation measures derived from compliance monitoring and enforcement codes. Waste enforcement agencies struggle to deliver on the expectations both of other stakeholders and the community members. The IWM Plan clearly outlines the goals and targets for waste regulation enforcement but the results for the previous three years proved that the agency was not complying. The focus on implementing the waste by-laws was not undertaken holistically. Based on the waste contravention report, waste transportation related offences were

mostly focused on as opposed to the concerns around illegally dumped waste and its social and economic implications. The high percentage of un-prosecutable cases due to officer error and system defects compromised the function of the municipal courts and prosecutions as in most cases, the matter was struck off the roll (SOR). The issue of insufficient resources was alluded to as the main cause for poorly enforced waste by-laws. Community members were unhappy about the lack of visible policing of waste contraventions from their areas.

The third challenge was around leadership in waste management with a focus on leadership style and accountability. The CoJ had a well-documented waste policy and plan. The challenge lay with its implementation. It seemed as if policy makers were comfortable in knowing that the policy was developed and did not do enough towards ensuring its implementation. The strategic leadership was found to be lacking and compromised clearly stated policy statements. The lack of accountability from actors regarding their responsibilities outlined in the IWM Plan and the continued and perpetuated behaviour by the public with regard to waste offences committed signified the challenge with strategic leadership within the CoJ. Referring to the issue of resource availability challenges, Meuser, et al., (2016) describes strategic leadership as a leader's ability to anticipate, envision, think strategically and work with others to initiate change.

The fourth and last concern was public value of waste management services. Equal and satisfactory access to waste services remained a challenge to most community members especially those residing in informal settlements and townships. As much as there was a concern about poor service delivery (shortage of refuse bags supply, inconsistency in collection and schedule) by authorities, there was a strong emphasise on the role of the community in terms of handling waste. The need for a well-planned education and awareness campaign was clear. One of the Waste Policy

objectives was to provide instructions on the implementation of integrated waste management principles with respect to the waste hierarchy in order to address challenges of waste service delivery and illegal dumping. The waste plan outlined specific targets set for ensuring efficient and effective waste management services.

6.1.6 Interpretation and Analysis of the findings

Theme 1: Waste governance model

Abas and Wee (2015) articulates the factors that influence governance practice. The first one is the clarity of policy context. The CoJ IWM Policy was a well contextualized document and relevant to CoJ waste pressures and challenges that ought to be addressed. Waste policy statements clarified the main purpose and desired change which included provision of a basis for integrated waste management by-laws to regulate waste generation and waste services delivery. Furthermore, the waste plan was clear on key priority areas with specific targets and responsibilities assigned to different stakeholders to be delivered on predetermined dates. There was no doubt about who should undertake specific responsibilities, but the commitment of the role-players to fulfil their obligations was lacking.

The four key actors in waste governance in the CoJ had a contribution to make. Fukuyama's (2013) definition of governance as government's ability to make and enforce rules and to deliver services regardless of whether the government is democratic or not informed the work of the EISD and LS&CD as key players in formulating waste by-laws and ensuring the legality thereof. The JMPD was mandated to perform the enforcement part and Pikitup was the SOC established to deliver waste services to CoJ residents and CoJ was the main shareholder. They were accountable to different independent principals and in spite of having well defined roles from the IWM Plan for each actor, their targets set in the IWM Plan did not always reflect in the departmental scorecards.

Theme 2: Waste regulatory measures

There was a difference between what was viewed as the most committed waste offences compared to what by-laws enforcers focused on when issuing citations. Most respondents felt that illegal dumped waste and littering were the most committed offences but analysis of waste contraventions during three consecutive financial years disclosed that the main citations issued to waste offenders were 1) failure to cover loose waste on an open vehicle with a tarpaulin or suitable net during transportation, 2) collection and transportation of building waste streams listed without having obtained from Council and being in possession of a licence authorizing such collection and transportation, and 3) the disposal of waste at a disposal facility where the disposal of waste concern was not permitted (CoJ, 2013). Critical support systems that could improve waste regulation implementation were not sufficiently utilised, namely municipal courts and prosecutions together with the environmental management inspectorate.

Theme 3: Leadership in waste management

The improvement in leadership with regard to waste management focusing on strategic leadership, transformational leadership, participative, shared and empowerment leadership and accountability was required and essential at CoJ. Circumstances that were allowed to prevail and exacerbate over the years were indicative of a need for intervention at strategic level. The sequence of events that lead to unmanageable illegal dumping and littering should have triggered the change in strategic direction and strategic managers should have anticipated future challenges and mitigated these.

As indicated above, the waste policy and plan articulated the desired change at CoJ but leadership that would have boldly ensured its successful implementation was lacking. Leadership requirements included decisive decision-making, active participation of actors and creating platforms for

engagement. While professionals were trusted with high degree of discretion, this was not sufficiently supported by continuously reviewed procedures and independent monitoring.

Theme 4: Public value of waste services

Members of the regulated community were subjected to different forms of waste contraventions. There were innocent citizens who became victims of the situation due to non-abiding residents. The CoJ had an obligation of ensuring that waste standards as stipulated in both provincial and national legislation were upheld. Such standards were further contemplated in the local waste legislative instrument. The standard of waste services provided was not consistent throughout the CoJ which raised concern on the public value of that waste services. Moore (2013) describes public value as value creation and legitimacy, however public managers have to lay out public value on the strategic triangle for themselves, the organisation and their overseers. It was evident that CoJ had challenges in creating acceptable value when it comes to waste services, while citizens valued waste services provided and expected to pay for it. Supporting the definition of public value. Bennington (2012) contends that value is also viewed as a conceptual framework to inform and inspire reform and improvement of public services and also deepening democratic and deliberative processes.

6.2 RECOMMENDATIONS

6.2.1 Problem statement

Waste regulation implementation in the CoJ had challenges that were manifested in the form of high levels of littering and illegal dumped waste. The annual report on waste service provision showed an increase in tonnages of illegal dumped waste from 229,709 tons in the 2013/2014 financial year to 276,806 tons in the 2014/2015 financial year. This was a 20% increase in illegally dumped waste. However, the report was silent on

waste offenders and regulatory actions taken against them in an attempt to discourage and reduce the rate of illegally dumped waste. Considering the negative environmental, social and economic impacts associated with poorly disposed waste, clearly the capacity of waste governance that supports and ensures the efficient and effective implementation of waste regulation in the CoJ needed to be examined.

6.2.2 Recommendations

6.2.2.1 City of Johannesburg Metropolitan Council

The mandate and obligations assigned to actors should be supported with required capitals commensurate with the main waste policy agenda. Institutional arrangements together with organisational structure needed to be flexible in order to respond to current demands for better service. Key actors required to demonstrate commitment towards the attainment of waste policy goals through annually business plans which reflect specific targets aligned with waste policy & strategy. To track and monitor that commitment, the stakeholder management system needed to be employed coupled with clearly designed performance reporting system. When assigning roles and responsibilities to the department /unit the competency of that department /unit should be the determining factor to avoid conflicting mandate and grey areas. The ability to make and enforce rules and deliver efficient waste management services at CoJ relied on waste governance with clear policy context, responsive institutions, coherent implementation, competent actors, and allocation of essential resources.

The local level waste regulatory instruments and tools should be aligned with the desired waste standards. There should be a broader view towards dealing with infringers based on the type of offence and its implications and /or impact, history of the offender and suitable punishment. Information management system for tracking offences and offenders from when

identified by the enforcement officer till the decision made by the municipal courts is essential. Institutions like prosecutions and municipal courts needed to be fully functional to support waste regulatory system. Responsive compliance monitoring to waste standards and record keeping of compliance notices was deemed necessary for effective waste regulatory system. Annually reports reflecting waste regulation performance in line with waste policy goals be produced.

Waste policy formulation and implementation required some form of leadership that must be displayed by actors trusted with that function. Leadership and accountability as one of the pillars of sound waste governance at CoJ needed improvement. Strategic leadership that would be able to anticipate, envision, maintain flexibility, think strategically and work with others to initiate required change in the waste regulation and governance at CoJ was required. This was due to the fact that waste contraventions especially illegal dumping of waste was allowed to continue for so long and aggressive and vigorous interventions were lacking. Equally important and essential was participative leadership behaviours that would ensure the elimination of incoherent and uncoordinated waste policy implementation. Leadership that displayed sharing and empowerment attributes and traits was critical to demonstrate the existence of social and intellectual capital amongst actors.

Actors trusted with implementing waste regulation and delivering waste services needed to clearly understand the required public value attached. The value created by current waste services and regulation reflected the type of administration, organisation and overseers of that service as ineffective. Since waste services provision was a regulated function considering its legitimacy was therefore crucial.

6.2.2.2 Municipalities and cities in the Republic of South Africa

Most South African cities are characterized by non-integrated planning and poor implementation of waste plans when these do exist. There is inadequate enforcement of waste legislation and waste by-laws and the successful prosecution of waste offenders is limited (Oelofse & Godfrey 2008). To address inadequacies and gaps identified from South African municipalities when it comes to provision of integrated waste management services this study suggests waste governance with clear policy context, responsive institutions, coherent implementation, competent actors, and allocation of essential resources. Strategic leadership that would be able to anticipate, envision, maintain flexibility, think strategically and work with others to initiate required change in the waste regulation and governance. Equally important and essential was participative leadership behaviours that would ensure the elimination of incoherent and uncoordinated waste policy implementation. Leadership that displayed sharing and empowerment attributes and traits was critical to demonstrate the existence of social and intellectual capital amongst actors. Public managers that fully comprehend how to lay out public value on the strategic triangle for themselves, the organisation they work for and their overseers/principals to whom they are accountable to.

6.2.2.3 Southern African Development Community towns and cities

SADC identified waste management as one of the priority issues affecting it as a result had commitment to promoting sound environmental management through pollution control, waste management and environmental education. Poor enforcement of legislation coupled with inadequate human resources and equipment were found to be contributing factors to high levels of illegal dumping of waste. This study suggests accountable leadership that is entrusted with implementing waste management system. Clearly documented waste policy monitoring and

evaluation system aligned to the waste policy and plans. To ensure continuous improvement and learning from the implementation of waste policy and plans, waste information system to collect data and inform decision-makers on key actor's performance is essential.

6.2.2.4 Local authorities from the African continent

The "rapid urbanization in African cities challenges the governance capacity of African countries and gives a clear indication of the need for adequate, efficient and reliable waste management services which are typically not found in African cities" (Kazungu, 2010, p. 2). To deal with such challenges facing African cities this study recommends waste management monitoring and evaluation system aligned with waste policy and plans. Each city should have waste reporting system driven by equipped waste governance model which is characterized by strategic, participative, empowering and accountable leadership.

6.2.2.5 Contribution to cities globally

To deliver ISWM under the framework of good waste governance three interrelated requirements were distinguished during the study carried out in 20 different cities: inclusiveness, financial sustainability, sound institutions and proactive policy (United Nations, 2010). In addition to these interrelated requirements for the effective delivery of ISWM, this study emphasize the need for improvement in strategic leadership at all levels of government that will demonstrate ability to envisioned waste issues, formulate organisational structures and institutions that would be flexible and respond to current waste pressures and challenges to foster required developmental intervention to effect desired change in waste management.

6.2.3 Further research

This study was limited to the CoJ and influenced by time and budgetary constraints. Future studies may focus on different categories of municipalities, since according to South African Municipal Structures Act there were three categories of municipalities, which was category A, B & C. Each category differed due to resources constraints, socio-economic status and external factors influencing the development of that municipality. Waste governance and waste regulation implementation was dependent to such factors. Further research may discover similarities and or differences which existed between metros, district & small municipalities and further suggest and recommend relevant and appropriate developmental interventions to improve the implementation of local waste regulatory framework.

6.3 CONCLUSION

The purpose of this study was to assess and examine the extent to which waste regulation is capable of addressing waste contraventions, and further analyse the ability of a waste governance system to support the implementation of waste regulatory framework in the CoJ. The study revealed gaps and challenges experienced by the CoJ in successfully dealing with waste contraventions and implementing waste regulatory framework coherently. That was due to a number of factors which included lack of leadership to drive waste policy and plan, waste governance characterised by poor relations amongst actors, lack of solidarity, lack of trust and reciprocity, lack of mutual support and shared sense of purpose, inadequate intellectual capital required for effective waste policy implementation, limited power to mobilize both financial and tangible resources commensurate to assigned waste policy mandate & obligation. Based on those findings the researcher presented recommendations deemed useful in addressing identified gaps and challenges informed by the literature that was reviewed.

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ANNEXURES

ANNEXURE A: CONSENT FORM

Research Project Title: The Implementation of Waste Regulatory Framework in the City of Johannesburg
Name of Respondent :
_____
Designation :
_____

City's department/Entity :
_____
Brief description of your duties :
_____
_____
_____
_____
_____
_____
_____
Please tick in the box after each statement to which you wish to consent:

1.	**I have been made aware of the purpose of the study.**	
2.	**I understand that my participation is voluntary and that I am free to withdraw it anytime.**	
3.	**I understand that my participation is anonymous and confidential.**	
4.	**I agree to take part in the study.**	

Name of person taking the consent

Date:

Signature

ANNEXURE B: INTERVIEW QUESTIONS

Interview Questions

I. General Information

Name & Surname:

_____

Name of the Company/Organisation:

_____

Position held/Designation:

_____

Years/Period:

_____

Brief Description of the role/duties:

_____
_____
_____
_____

II. Research Questions

A: Introduction:

To be able to evaluate the effectiveness of waste regulation implementation, the empirical data on the type of waste offences identified and affected areas within CoJ is required. The procedures' and methods utilized.

1. What types of waste offences were recorded or committed?
2. Where do waste offences originate within City's regions?
3. What were the experiences of waste regulation enforcers?
4. What were the experiences of regulated community?

B: **What were the waste governance capitals (intellectual, social, material & political) put in place to support waste regulation implementation?**

1. Intellectual Capital

   Introduction

   Intellectual capital in this context is defined as knowledge resources. Which depends on the range of knowledge available to the actors, frames of reference to turn the information into meaningful and integrated knowledge and to make sense of it, free flow of knowledge and sharing of information between actors, the learning capacity of actors which include both willingness to learn and openness to new ideas

   Question: Discuss the intellectual capital in CoJ in relation to waste governance.

2. Social Capital

   Introduction

   Social capital (linked to the concept of civic society) refers to relational resources and the nature of relations between the actors, which depends on setting up relations that are based on solidarity, trust and reciprocity, mutual support for the actions that have been agreed upon, and a shared sense of purpose and /or mutual interdependency

   Question: Discuss the social capital in CoJ in relation to waste governance.

3. Material Capital

   Introduction

   Material capital refers to financial and other tangible resources that are made available to actors commensurate with the main policy agenda.

   Question: Discuss material capital provided to implement waste regulation.

4. Political Capital

   Introduction

   Political capital is about the capacity to mobilise and depends on power relations. Power in this context refers to power to act, rather than power

over the action of others. Power relations and the capacity to mobilise resources and take action.

Question: Discuss political capital that actors possess.

C: **Introduction**

Waste offenders need to be punished for contravening waste regulation. This is important in changing attitudes and discouraging undesired behaviour

1. Action taken to waste offenders.
   What actions were taken as a way to punish/discourage waste offences during this period?

2. Discuss the role of the prosecutors in waste regulation enforcement
   What kind of role does the prosecutor play within the waste regulation enforcement value chain?

3. Discuss the role of the magistrate courts/municipal courts in waste regulation enforcement
   What is the role of the magistrate courts in waste regulation enforcement?

D: **How enforceable, relevant and applicable was the waste regulatory instrument found in the CoJ?**

1. <u>Enforceability.</u>
   Definition: Enforceability refers to the clear understanding of the waste regulation, correct interpretation and capable of being enforced.

   Question: Views regarding the enforceability of waste regulation in the CoJ.

2. <u>Relevancy.</u>
   Definition: Relevancy refers to the connectedness with the waste issues that must be regulated and updated /aligned with the current national or international best practices & standards.
   Question: How relevant is waste regulation in CoJ.

3. Applicability.
   Definition: Applicability refers to the useful and suitable to regulated waste and maintain the required standards.

   Question: How applicable is waste regulation in the CoJ

ANNEXURE C: BY-LAW CITATIONS 2013-2014

Citations on System: By-Laws
Financial Year Report

Default view is the current Financial Year

Financial Year Selected: 2013 2014

No	Category/Charges	2016/2017 Quarter 1	2016/2017 Quarter 2	2016/2017 Quarter 3	2016/2017 Quarter 4	Total
1	ADVERTISING BY LAWS	1544	888	367	0	2799
2	BUSINESS Act 71 of 1991	24	28	0	0	52
3	BY-LAWS (HAWKERS)	0	0	0	0	0
4	CEMETRIES AND CREMATORIA	0	0	0	0	0
5	DOGS AND CATS	0	0	0	0	0
6	ELECTRICITY BY LAWS	348	370	31	0	749
7	EMERGENCY SERVICES	40	15	1	0	56
8	ENCROACHMENT ON PROPERTY	0	0	0	0	0
9	FOODSTUFF,COSMETICS,DISINFECT	0	0	0	0	0
10	HEALTH ACT & REGULATIONS	78	129	12	0	219
11	HIRE/USE COMMUNITY FACILITIES	0	2	0	0	2
12	NATIONAL BUILDING REGULATIONS	0	0	0	0	0
13	NOISE CONTROL BY LAWS	27	6	4	0	37
14	OPEN SPACE	63	105	23	0	191
15	PARKING COUPON DEVICES	30083	30788	4509	0	65380
16	PARKING GROUNDS	1	4	0	0	5
17	PUBLIC HEALTH	0	0	0	0	0
18	PUBLIC ROADS & MISCELLANEOUS	0	0	0	0	0
19	PUBLIC ROADS & MISCELLANEOUS	680	246	24	0	950
20	RECREATION AND SPORT	0	0	0	0	0
21	STOPPING AND PARKING	3	1	0	0	4
22	STREET TRADING	3383	658	269	0	4310
23	TAXI AND BUS	0	0	0	0	0
24	TOBACCO PRODUCTS CONTROL ACT	0	1	0	0	1
25	TOWN PLANNING	1	0	0	0	1
26	WASTE MANAGEMENT	1749	1581	39	0	3369
27	WATER SERVICES	110	459	35	0	604
	Total	38136	35282	5314	0	78732

ANNEXURE D: BY-LAW CITATIONS 2014-2015

Citations on System: By-Laws
Financial Year Report

Default view is the current Financial Year

Financial Year Selected: 2014/2015

No	Category/Charges	2014/2015 Quarter 1	2014/2015 Quarter 2	2014/2015 Quarter 3	2014/2015 Quarter 4	Total
1	ADVERTISING BY LAWS	219	321	1186	1832	**3558**
2	BUSINESS Act 71 of 1991	15	22	28	35	**100**
3	BY-LAWS (HAWKERS)	2	0	2	0	**4**
4	CEMETRIES AND CREMATORIA	0	0	0	0	**0**
5	DOGS AND CATS	0	0	0	0	**0**
6	ELECTRICITY BY LAWS	893	412	201	74	**1580**
7	EMERGENCY SERVICES	0	2	2	20	**24**
8	ENCROACHMENT ON PROPERTY	0	0	0	0	**0**
9	FOODSTUFF,COSMETICS,DISINFECT	1	0	6	1	**8**
10	HEALTH ACT & REGULATIONS	110	87	113	67	**377**
11	HIRE/USE COMMUNITY FACILITIES	60	2	89	187	**338**
12	NATIONAL BUILDING REGULATIONS	0	0	0	1	**1**
13	NOISE CONTROL BY LAWS	14	4	11	35	**64**
14	OPEN SPACE	116	110	140	123	**489**
15	PARKING COUPON DEVICES	3279	9424	7471	9853	**30027**
16	PARKING GROUNDS	68	211	93	69	**441**
17	PUBLIC HEALTH	8	0	0	3	**11**
18	PUBLIC ROADS & MISCELLANEOUS	214	135	0	0	**349**
19	PUBLIC ROADS & MISCELLANEOUS	0	139	184	126	**449**
20	RECREATION AND SPORT	0	0	0	0	**0**
21	STOPPING AND PARKING	18	3	60	10	**91**
22	STREET TRADING	4343	3211	423	737	**8714**
23	TAXI AND BUS	2	1	0	4	**7**
24	TOBACCO PRODUCTS CONTROL ACT	3	2	26	9	**40**
25	TOWN PLANNING	0	0	0	0	**0**
26	WASTE MANAGEMENT	214	512	950	1330	**3006**
27	WATER SERVICES	40	626	93	2	**761**
	Total	9619	15224	11078	14518	50439

ANNEXURE E: BY-LAW CITATIONS 2015-2016

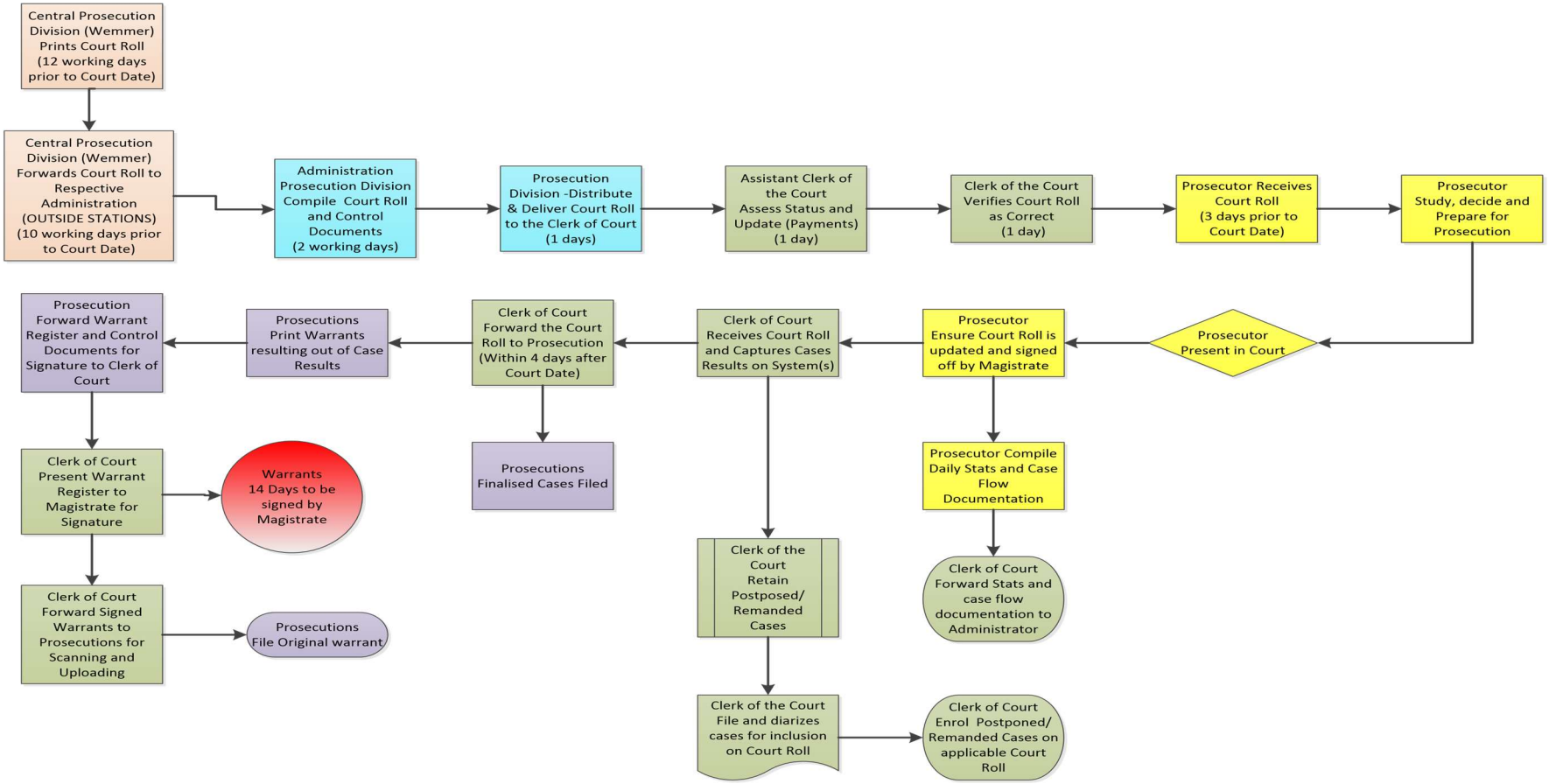
Citations on System: By-Laws
Financial Year Report

Default view is the current Financial Year

Financial Year Selected: 2015/2016

No	Category/Charges	2015/2016 Quarter 1	2015/2016 Quarter 2	2015/2016 Quarter 3	2015/2016 Quarter 4	Total
1	ADVERTISING BY LAWS	1052	376	1078	2196	**4702**
2	BUSINESS Act 71 of 1991	22	23	30	22	**97**
3	BY-LAWS (HAWKERS)	0	0	0	0	**0**
4	CEMETRIES AND CREMATORIA	0	0	0	0	**0**
5	DOGS AND CATS	0	0	0	0	**0**
6	ELECTRICITY BY LAWS	79	171	653	322	**1225**
7	EMERGENCY SERVICES	16	9	11	7	**43**
8	ENCROACHMENT ON PROPERTY	0	0	0	0	**0**
9	FOODSTUFF,COSMETICS,DISINFECT	0	0	0	0	**0**
10	HEALTH ACT & REGULATIONS	65	100	105	59	**329**
11	HIRE/USE COMMUNITY FACILITIES	73	1	0	0	**74**
12	NATIONAL BUILDING REGULATIONS	1	0	0	0	**1**
13	NOISE CONTROL BY LAWS	11	11	19	18	**59**
14	OPEN SPACE	84	42	155	130	**411**
15	PARKING COUPON DEVICES	11910	3895	8907	18312	**43024**
16	PARKING GROUNDS	2	9	43	455	**509**
17	PUBLIC HEALTH	1	1	4	1	**7**
18	PUBLIC ROADS & MISCELLANEOUS	0	0	0	0	**0**
19	PUBLIC ROADS & MISCELLANEOUS	83	138	495	554	**1270**
20	RECREATION AND SPORT	1	0	0	0	**1**
21	STOPPING AND PARKING	1	0	4	2	**7**
22	STREET TRADING	519	34	4279	3843	**8675**
23	TAXI AND BUS	0	0	0	0	**0**
24	TOBACCO PRODUCTS CONTROL ACT	0	3	1	6	**10**
25	TOWN PLANNING	0	0	33	0	**33**
26	WASTE MANAGEMENT	916	262	1256	2319	**4753**
27	WATER SERVICES	37	40	7	0	**84**
	Total	14874	5116	17083	28246	65319

ANNEXURE F: BY-LAW COURT CASES ENROLLED – PROCESS FLOW



ANNEXURE G: BUILDERS RUBBLE INFORMATION

Builders' rubble belongs in legal landfill sites – Pikitup

Concerned about the high rate of illegal dumping of builders' rubble across the city and the damaging effects it has on the environment, Pikitup, the City of Johannesburg's integrated waste management entity, has called on all construction companies to make use of its landfill sites to dispose of clean builders' rubble. The service is provided for free but the companies have to first register an account with Pikitup, which can be done at any of its depots spread across the city. Contact details and location of the depots are obtainable from Pikitup's website, www.pikitup.co.za. The service is also open to members of the public "Registration will give the contractors access to the landfill sites to dispose of clean rubble and uncontaminated waste," says Pikitup's Chief Operations Officer, Ika Magasa.

Pikitup has also deployed builders' rubble crushing machines at five of its landfill sites – one closed and the other four operational. The landfill sites are, namely: Linbro Park in Region E, which is closed; Robinson Deep in Region F; Goudkoppies in Region D; Ennerdale in Region G; and Marie Louise in Region C.

The facilities only accept the following materials:

- Uncontaminated building or construction rubble, free of organic matter (including paper, cardboard, wood, door frames, broken doors and rhino board walling or roof ceilings), free of steel matter (including concrete reinforcement steel, window frames, door frames) at no cost to the user;
- Any rubble that can be processed by the crushing machines – the boulder size must not exceed 300mm in diameter; and
- The rubble needs to consist of objects that are no bigger than a standard brick (about 70mmX220mmX100m in size). The soil must have a maximum particle size of 20mm. Big boulders and concrete chunks cannot, however, be processed by these machines and cannot therefore be accepted in these machines.
- Contaminated or mixed rubble is accepted at all operational landfills at a fee per ton in line with approved tariffs, which is charged at R95.10 incl vat.

Pikitup's Disposal Management Division reuses the builders' rubble as cover material at landfill sites to mask odour from other waste. "It can also be used to construct temporary access roads to the disposal points at the landfill sites," explains Magasa.

Magasa adds that there is no legitimate reason or excuse for the illegal dumping of builders' rubble. "Builders' rubble constitutes a significant amount of all waste dumped illegally in Johannesburg. It is detrimental not just to the environment but also to the economy," There are other ways that builders' rubble can be recycled. For instance, scrap wood or wire from bricks can be used to make dog kennels and ironing boards. "Keeping the city clean is a collective effort. Pikitup would appreciate the support of building contractors in keeping the city clean, not only would we be kinder to the environment, we would also be saving costs." says Magasa.

For more information, building contractors and residents are urged to contact Joburg Connect on (011) 375-5555 or 0860JOBURG. Additional information can be obtained from www.pikitup.co.za.