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The challenges that come with the delay in collecting community garbage bags. The case study of Umlazi (Q-section).

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Date: 30 May 2019

DECLARATION

I **Sanele Niceboy Dlamini** hereby declare that this dissertation is my work except otherwise where indicated and that:

- Where the precise words of other parties have been utilised, their writing has then been quoted in italics and referenced.
- The study does not encompass texts, graphics and/or diagrams derivative from the internet, except where unambiguously acknowledged and the genesis being indicated within the disquisition as well as under the Reference sections.

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Signature:



A handwritten signature in black ink, consisting of stylized, overlapping loops and vertical strokes, positioned above a horizontal line.

Date:

30/05/2019

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I am forever beholden to each of you as above-mentioned. Stay blessed!

ABSTRACT

The relevance of this study was embedded in knowing that the South African government through its local councilors exists to safeguard that residents within their demarcated wards live in a clean, healthy and hazard-free environment as supported by the South African Constitution (Act 108 of 1996) and the Municipality Systems Act (32 of 2000). Using theoretical standpoints of the Welfarist theory and the Modernisation theory as well as the qualitative research design as a principal method of data collection, this thesis examined the challenges that come with the delay in waste collection in Umlazi Township (Q-section) and the policy implications therein. The study reveals that the usage of open dumps is the most viable option of solid waste disposal in the study area. Open dumping will continue to be the most widely adopted technique of disposing waste by most towns in Durban due to the inadequate infrastructure which makes it difficult for the municipal truck to collect the solid waste.

Secondly, the study reveals that unmaintained dump side encourage communicable diseases which detracts people's health. The study reports that communicable diseases have conditioned some community members who are also breadwinners to have chronic diseases. This has cost them to lose jobs and deepens them into rife poverty that is confirmed in most people in South Africa. Children of this community are now deprived the right to play outside which benefits their physical growth as parents protect them from contaminated litter. The study concluded that this community is not liberated as it is still oppressed by an unaccountable local sphere of government which does not prioritize adequate sanitation for its people. The study recommends the establishment of a sanitation network or committee which will look at issues of sanitation as a service delivery concern. It contributes in sensitizing people that they must make use of public participation gatherings to discuss or express issues of sanitation in lieu of being passive beneficiaries. The study recommends a sectoral approach which should be steered by the Department of Health and the eThekweni Municipality through which the said population can be empowered in reducing, reusing as well as re-cycling their own litter for health and economic reasons. These findings can be utilised to broaden people's comprehension of the significance and impact of effective solid waste management or lack thereof.

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ACRONYMS

BGCM: Bursa Greater City Municipality

CERCLA: Comprehensive Environmental Response, Compensation and Liability Act

DEAT: Department of Environmental Affairs and Tourism

DEC: Department of Environmental Conservation

DMA: Durban Metropolitan Area

D'MOSS: Durban Metropolitan Open Space System

ECA: Environment Conservation Act

EUPWD: European Union Packaging Waste Directive

HWSA: Hazardous and Solid Waste Amendments

ICGM: Istanbul Greater City Municipality

IDP: Integrated Development Plans

ISWM: Integrated Solid Waste Management

JICA: Japan International Cooperation Agency

KAB: Keep America Beautiful

KZN: KwaZulu-Natal

LA21: Local Agenda 21

LAC: Latin American Countries

LDPFA: Land Disposal Programme Flexibility Act

MRF: Material Recovery Facilities

MSW: Municipal Solid Waste

MSWM: Municipal Solid Waste Management

NWMS: National Waste Management Strategy

NCC: Nairobi City Council

NERF: National Environmental Regulatory Framework

NFPA: National Fire Protection Act

NGO: Non-Governmental Organisation

RCRA: Resource Conservation and Recovery Act

SIS: State Institute of Statistics

SWDA: Solid Waste Disposal Act

SPSS: Statistical Packaged for Social Science

UK: United Kingdom

UN: United Nations

UNEP: United Nations Environment Programme

US: United States

CHAPTER 1

INTRODUCTION AND PROBLEM CONTEXTUALISATION

1.1 Introduction

Sanitation as a service delivery expectation that includes the prerogative to live in a clean and a healthy environment seems to be a farfetched promise to some electorates or citizens in South Africa as most people are still living in dirt or sharing their daily lives with uncollected garbage. To observe that some people still live in filthy conditions in South Africa raises a lot of questions, why are citizens also known as voters being cheated on their prerogative to live in a clean and a healthy environment; what are the health-related challenges that they experience; what are the bottlenecks in the provision of this sanitation predicament and who has not been accountable enough to bail people out from compromised living conditions. This study focuses mainly on the challenges that come with the delay in refuse removal at Umlazi (Q-section) in Durban. The chapter entails the background, the problem statement and subsequently the research objectives and questions and presents the layout of other subsequent chapters. This study therefore stresses that as students adapt in this new environment, they change or create the so-called new identities.

1.2 Research background

The research on service delivery within the scope of sanitation, particularly the collection of garbage or waste is not a new inquiry. Service delivery remains a detrimental issue in South Africa. It is pronounced as a fundamental basic human right, yet, according to policy analysis, it is engulfed with multi issues such as those of poor political leadership, absence of political will, no good governance (lack of transparency, openness, accountability, no public consultation), nepotism, corruption, skewed distribution of resources, poor governance, privatisation which compromises existing policies and what people expect from government as policy custodians or actors. This study brings forward that people are still living in the dirt. They live closely with litter/garbage and this remains an international experience. Ahmed et al, (2011), Devads (2012) as well as Afangideh et al., (2012) confer that the accumulation of uncollected garbage was witnessed in the early 1960s as a result of the urbanisation era. The Modernisation theory which will be presented in Chapter Three of this thesis also bears testimony to this. Since then, it has been an international concern that millions of people contribute to the accumulation of tons of garbage which municipalities have not been effective enough in collecting (Yoad, 2014: 1). The United Nations Habitat Report for Better Future

Report (2010) affirms that part of the inconveniences for local officialdoms in townships and urban areas is the management of solid waste. The lack of a confirmed political will, political obligation, ample budgetary apportionments, and a devoted personnel has compromised the provision of good sanitation to people who are categorised as direct beneficiaries of basic service delivery. Onibokun and Kumuyi (1999) cited in A Yoda (2014) assert that uncollected waste constitutes part of the most acute health and environmental issues internationally, hence contextual research is recommended to make sense of regional factors that contribute to this experience. Owusu et al., (2012) state that the absence of land to be used as landfills has contributed to the accumulation of mismanaged garbage. Afangideh et al, (2012) as well as De and Debnath (2016) assert that the growth of human settlements/population density as well as rural-urban migration has contributed to the accumulation of garbage and it has become evident that most communities are not enlightened with information such as how to minimise the generation of waste, how to take care of the garbage indigenously and how to dispose waste. Palczynski (2002) recommended in the study conducted in Ghana that inquiries on the poor collection of garbage must not be put to rest as uncollected waste threatens the livelihoods of people whom by virtue of people and as voters deserve to live under uncompromised sanitation. The South African Sanitation (2016) postulates that one of the challenges that have compromised the provision of the collection of garbage or solid waste is that most South African live below the poverty line, they are unemployed and cannot afford to purchase some services from municipalities. This indigent predicament affects the provision of service municipalities because it does not collect enough remittances from its own local people.

It is against this backdrop that this study is conducted in Umlazi (Q-section) where the removal of garbage remains a service delivery issue as a promised policy commitment in the democratic era since 1994. The South African National Sanitation Policy (2016) acknowledges that South African communities, particularly Black people were historically succumbed to live under enormous socioeconomic problems and these issues have made it almost impossible for the environments of these areas to be developed. The background of the policy states it clearly that the apartheid era created this sanitation predicament, especially in the townships because of the Land Act (1913) which set White people as direct beneficiaries of adequate sanitation while it disadvantaged other races proper geographical location as well as the provision of sanitation services. The apartheid regime excluded them from being immediate and direct beneficiaries of any decent service delivery (Matibane, 2010). Other historical problems range from those caused by means of the shortage of elementary amenities such as hygienic water, privation of

power supply in some areas, unproductive garbage removal systems, shortage of recycling stations, dearth of educational facilities, to the privation of housing and living space, and consequently, overcrowding (Matibane, 2010). This study is conducted to report on the challenges that are linked to the delay in collection of garbage at Umlazi (Q-section). This township like numerous others, continues to be haunted by environmental issues as a result of uncollected waste which compromise residents in various ways. Umlazi (Q-section) is an area which is characterised by both the formal and informal settlements and their service delivery right which is the collection of garbage remains a human-environmental issue. Nkosi (2014) provides that South Africa has a service delivery history which dates from the times of apartheid era till to date. She notes that service delivery with regard to sanitation-related issues does not seem to be clearing. Poor sanitation in relation to uncollected garbage continues to be a persisting issue that makes one to question the extent to which government and policies have been effective or ineffective in making certain that people are living in a healthy and safe environment. She is one of the contemporary scholars who have critically argued that there does not seem to be a change in how people live. Her comparative analysis is that, in the apartheid era, most villages and townships lived under compromised sanitation. Hence the democratic dawn was to respond to this human-environmental issue.

1.3 Problem statement

The United Nations Report for A Better Urban Future (2010) provides that the responsibility for the sanitation/service delivery provision rests on local municipalities. The problem at hand in most provinces and municipality wards in South Africa is that there is an observable lack in the provision of garbage removal or collection. The system is often derisory, with over half of the garbage remaining uncollected. This is a challenge that is experienced by the majority that live in low-income settlement. According to Anderson (2010), “Implementation is an important stage in the policymaking process”. Restricted reserves are regularly utilised to procure insufficient and every so often, inapt collection apparatus to sustain a deficient, outdated collection fleet. The provision in the majority of towns and cities in the developing countries can at most, be pronounced as undependable, irregular and incompetent. Frequently, the system utilised in the unindustrialised countries has been endorsed by international experts from nations with unlike economic and social state of affairs and entirely dissimilar waste features.

The state of sanitation (i.e. uncollected garbage) where the study is conducted gives a sense that there are bottlenecks in the realisation of sustainable sanitation. This study takes interest

in comprehending challenges that come with the delay in the collection of garbage at Umlazi (Q-section). The problem that prompted this study to be focused on this section over other sections is that, it has been years since this community became one of the dirtiest sections in Umlazi as a result of uncollected waste by the eThekweni Municipality. This, I have observed as a resident in the area. I wanted to write about this service delivery challenge that this community has encountered with the hope of making recommendations that will bail this community out of the sanitation misery. The evident compromise of their sanitation right encouraged me as a policy student to have interest in reporting about the challenges that come with the delay in collecting community garbage bags so that policy custodians and politicians can be made aware that some people are not part of the deliberated population as they are still oppressed by uncollected garbage.

It is pivotal to note that this study was carried out to represent the unheard voices of the affected population of Umlazi (Q-section) as I believe if people cannot speak through the public protests they can speak through research to raise their levels of dissatisfaction with the provisions of service delivery. In terms of the socio-economic outlook of Umlazi (Q-section), this area is characterised by both the formal and informal settlements and the service delivery right which is the collection of garbage remains a human-environmental issue that requires an intervention.

Awomeso et al. (2010) and Asuqou et al. (2012) also noted in their study that industries/factories, human beings and families as societies are the one who have a great influence on the generation of waste as well as the disposal of it. While I may agree with these scholars, I conversely rise with a counter argument which is that, the decentralised system of governance in South Africa was adopted to respond to the management and the disposal of garbage and this is a Constitutional prerogative enshrined under Section 24 of the Constitution of South Africa (Act 108 of 1996) without having to blame the waste generators or disposers. The problem statement of this thesis is that the community of Umlazi (Q-section) is amongst the communities or townships whose electorates and children have not enjoyed to live in a township that is clean which is a Constitutional right in South Africa. As aforementioned, I have observed that Umlazi (Q-section) is one of the dirtiest wards under the eThekweni Municipality in South Africa. There are high volumes and tons of uncollected garbage which have become the land mark of the ward itself. This township continues to be haunted by poor sanitation.

This research is of cardinal importance and great value to the livelihoods of Umlazi (Q-section) because it seeks to review the effectiveness of service delivery in the context of sanitation in the area. Sanitation is a rudimentary social prerogative pronouncement by the Constitution to them (Constitution of South Africa 108 of 1996). It is pivotal to interrogate this issue as it negatively affects the recreation of kids that play on the motorways full of scattered waste and on the environment. The children and any other occupants of Umlazi (Q-section) remain at risk of contamination of illnesses and diseases from hazardous and detrimental waste from the one lying around the streets since it has not been collected for longer periods which in this case, has been going on for years. This study is intended to collect challenges and introduce solutions that could be used in responding to experienced waste removal. Furthermore, solutions are envisaged to illuminate service delivery issues within the scope of sanitation (refuse collection) through which the policy could be amended and implemented to the best benefit of Umlazi (Q-section).

Politically, the removal of garbage is one of the basic services preserved in the South African Constitution (Constitution, Act 108 of 1996) which is considered as a basic necessity. Kubanza (2010) confirms that South Africa is experiencing service delivery challenges which are related to the derisory collection and unfitting discarding of solid waste. He says most provincial cities and wards are extremely filthy and remains indisputable that people are living at a close proximity with garbage and that they breathe polluted air. His research findings illuminate that uncollected garbage is problematic in a sense that it is a serious infringement of human rights as it causes environmental (i.e. air, land and water) pollution and poses risk to human health and the environment. It also restricts children from living and playing in a safe and healthy environment. Service delivery has not solely been the interest of scholars. Conversely, several media coverages in South Africa have publicised a high level of dissatisfaction as most provinces have embarked on uncontrolled riots where electorates have levelled up their anger on what has been not being realised by policy custodians or municipalities in relation to the realisation of basic service delivery. Muller et al. (2016) asserts that most riots in different provinces in South Africa have been around the provision of housing, abolishing the bucket systems as well as on accessing clean water. Matibane (2010) states that the non-collection of garbage threatens the consolidation of democracy and is a compromisation of basic human rights, which is the right that is promised to all by virtue of birth. She confirms that Section 24(b) of the Constitution of the Republic of South Africa, particularly the Bill of Rights, affirms

that sanitation should be an uncompromised service delivery right as it clearly states that “Everyone has the right—

(a) to an environment that is not harmful to their health or wellbeing; and

(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that—

(i) prevent pollution and ecological degradation;

(ii) promote conservation; and

(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development”, (Constitution of South Africa, pg. 9).

In essence, the Constitution of the Republic of South Africa (Act 108 of 1996) affirms the right of every resident to a clean and safe environment which includes having waste timeously collected by sectors tasked to render this service to people and their residential areas. This is one element of decency that came with democracy as a new political deal in South Africa. According to the Constitution of the Republic of South Africa (Act 108 of 1996: 9), every person is meant to be afforded an environment which does not detriment their health or wellbeing. This provision is listed as the least possible basic extent of sanitation acceptable in the South African Sanitation Policy (2016) where it is clearly stipulated that appropriate health and hygiene awareness and behaviour is raised; that sanitation services should be rendered at the lowest cost; that there must be an appropriate system for disposing human excreta and; the environment must be clean and safe for both human beings and animals. The argument that this study brings forth is that the Sanitation Policy (2016) make such a provision to the population of Umlazi (Q-section) that they do not deserve to live in an unclean environment and that it is important to document challenges that come as a result of living in an unclean environment. This research inquiry is pivotal in the sense that findings will aid in diagnosing the issue and report on possible solutions thereafter. The study is also encouraged by the South African National Sanitation Policy (2016) as it recommends that the bottlenecks in the realisation of this service delivery policy mandate ought to be identified in order to accomplish the National Development Plan (2030) which pronounces that all South Africa citizens must live and have access to clean environment.

I advance to note that in the context of the South African democracy, the state of living close to uncollected garbage is very shameful as it proves that people of this ward are not protected

by policies and that the local councillor does not seem to prioritise this sanitation right for all community members. Addeney and Oppong (2015: 30) as well as Kumar et al. (2017) concluded in their independent studies that most countries are battling to achieve good sanitation as a basic service delivery expectation. They state that around the globe, most countries become inefficient on the collection or on the regulation of refuse and the garbage has had adverse impacts on human health as well on the environment and it has compromised the universal basic right which is to live in a clean and unpolluted environment. Their literature contribution points out that uncontrolled waste, irregular collection of garbage has become one of foremost contests confronting cities and towns in the developing countries.

Kumar et al. (2017) as well as Yoda et al. (2014) in their independent studies, assert that most communities are sharing their lives with uncollected garbage which has contributed in most people being medically diagnosed with cholera, intestinal worms, acute upper respiratory tract infections and malaria as prevalent pandemics which can be linked to poor sanitation. In this same breadth, Matibane (2010) argues that communities in the developing urban areas are confronted with sanitation problems of uncontrolled waste which commonly consist of domestic refuse, biological litter, vegetation, branches, logs, damaged agricultural produce, produce residues, bad food constituents, animal skins, bones, hides, blood, paper fragments, polythene bags, shreds, leather, automobile scrap, utilised tires, filths, mire, plastics, glass, urinary and excrement. When these litters are indecorously discarded, as is normally the case, they incorporate a risk to the physical environment, air, wildlife and mankind. Illness and disease epidemics frequently transpire when sewage, trash and unsolicited elements are improperly discarded and mismanaged. Abouzied and Chen (2014) also agree that service delivery in relation to the collection of garbage or waste management and collection is a global concern. Their study concluded that, most cities do not have official dump sites, those who are under the collection regulation by the municipality are experiencing delays in the collection or removal and this condition compromises the health of all people living in that environment.

1.3.1 Sanitation as a municipality decentralisation mandate

The eThekweni Municipality is part of a three-sphere of a decentralised government system (Boetti, Piacenza, and Turati, 2009). Like any other South African municipality, the eThekweni Municipality's capacity of service delivery is influenced by the political, financial and administrative configuration of the decentralised government system (Da Motta and Moreira, 2009). The obligations of the basic service delivery by the local municipalities like the

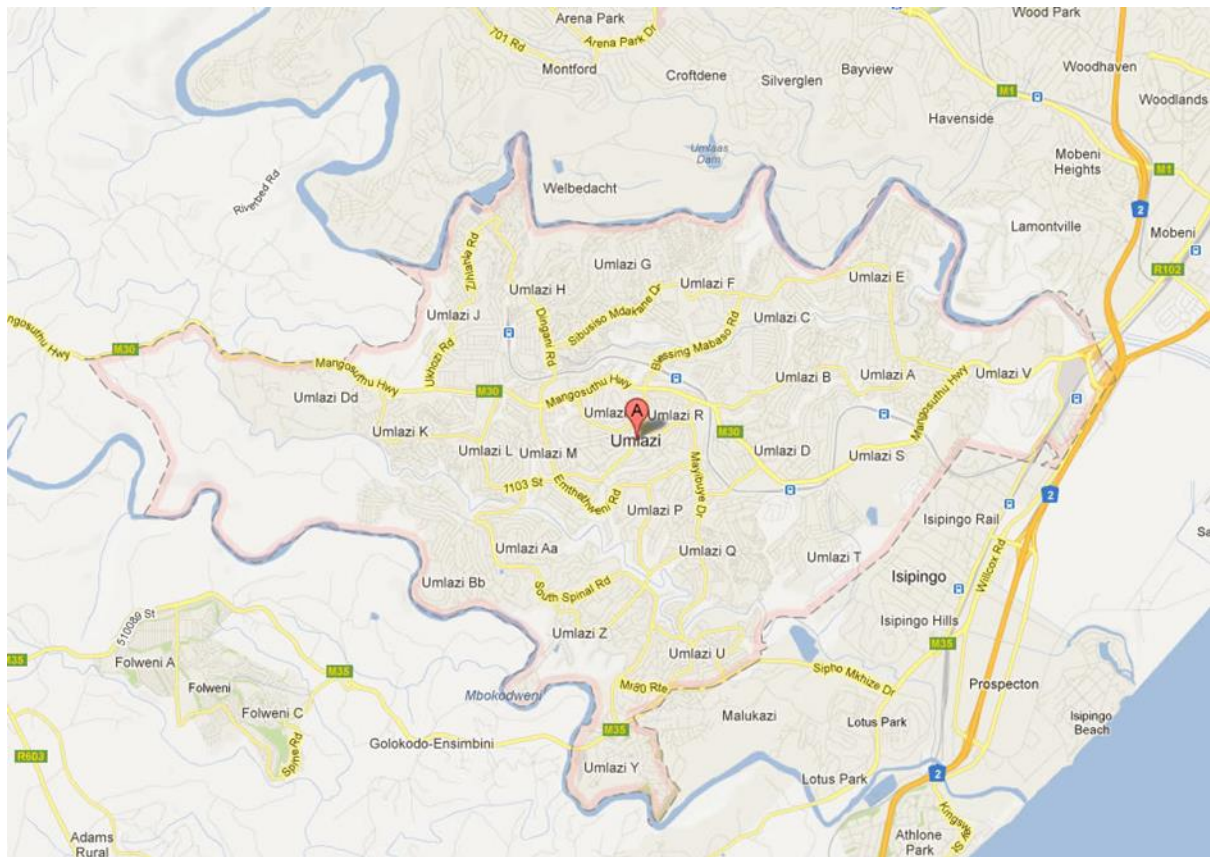
eThekweni Municipality can be rather strenuous and challenging in a financial sense so long as it depends on certain other spheres of government to deliver its Constitutional mandate, more so with regard to the intergovernmental transfers of fiscal resources. One other basic service delivery expectation is the responsibility of sanitation as stipulated in the Municipality Systems Act (Act 32 of 2000) and this includes the provision and collection of garbage bags across all its wards.

Most researchers have agreed in most publications that in most developed and underdeveloped countries, municipalities are given the mandate to ensure that people live in a healthy and a safe environment (Ramos et al., 2012). One of the service delivery mandates is that they collect all the waste that is daily generated by people. Findings from various sources have reported that municipalities are not winning the battle of controlling waste and even collecting it on time or as scheduled. Some municipalities don't even have clear routes which also assist in monitoring who has received the service and not. This ends up concentrating services to a single community because no one is monitoring how routes are made by garbage collectors. (Yoada et al., (2014: 2). Ramos et al. (2012) asserts that municipalities have failed to respond to this sanitation service delivery expectation since most of them are usually given restricted fiscal means to respond to such issues. Most municipalities fail dismally as they rely on the collection of rates from indigent people so that they could respond to the persisting issue. They agree in their policy reports that uncollected garbage remains a threat to the daily survival of the people and it affects children from playing freely as they could contaminate diseases from the garbage itself. Their findings specify that uncollected refuse can cause inundating bugs, rodents, and maladies. Improper discarding of garbage can infest air and water, making it a significant environmental test.

1.4 Location of the study

Umlazi (Q-section) is a section of Umlazi Township that is geographically located in the south-east of Durban and marked as part of the fourth colossal township in South Africa with a populace of 404 801 people (Statistics SA, 2011). The township has a population of African descendants characterised by both formal and informal settlements. It is situated 23.6 km via M4 and Griffiths Mxenge Highway/M30 south-west of Durban centre. Umlazi Township encompasses 4 481.7 hectares of land and is to be found in the inward south region of the eThekweni Municipality area. The township is located at 30.882959 longitude and -29.967422 latitude. This area has an extensive history dating back initially in 1845 during the occupation

by the British settlers and creation of 'Native locations' for the Zulu-speaking people. It was in 1967 that Umlazi was established as a Black township and it mainly housed African labourers. Most of these labourers were required for employment in the White-owned productions based in the South Durban Basin. Umlazi would later become the largest township in Durban, and the fourth largest in South Africa. Umlazi Township is made up of twenty six alphabetical units, A through to Z with however, an omission of I, O and X and with an incorporation of AA, BB and CC. This study focused on Q-section which falls under Ward 87 headed by Councillor Zoe Shabalala. According to the data from the Demarcation Board captured in the most recent Census of 2011, the population of Umlazi (Q-section) is recorded to have been 20745 and the area is 2.16 km². According to Census (2011), demographics of the section that is studied confirm that the life expectancy ranges above the age 80 with youths between 20 and 29 being the most dominant age group. The following map depict the geographical location of the section that was studied within eThekweni Municipality.



Source: <http://www.sa-venues.com> (Accessed 23 October 2018)

1.4.1 Historical glance of Umlazi (Q-section)

South African historians and town developers of the time recorded that by 1991, Umlazi Township had 29 000 probable formal housing units which suggested that an average of 20 individuals had a homestead in 1991. Of these units, 22 694 houses were instituted by what was dubbed as the South African Development Trust, while 5 487 units were privately built and just 108 units were constructed in order to accommodate the incapacitated persons (<http://www.sa-venues.com>: Accessed 23 October 2018). At this time, formal houses were characterised by full services which included electricity, tap water and waterborne sewerage and this is what the welfarist theory addresses (i.e. the welfare of the societies). Urban areas are experiencing a growing number of people immigrating into them, and Umlazi (Q-section) which falls under Ward 87 is no stranger to such. As a result, overcrowding and the privation of housing characterises Umlazi (Q-section). Consequently, a large population resorts to squatters which are accommodated in the backyards at Umlazi (Q-section) yearning to reside in a clean and a healthy environment.

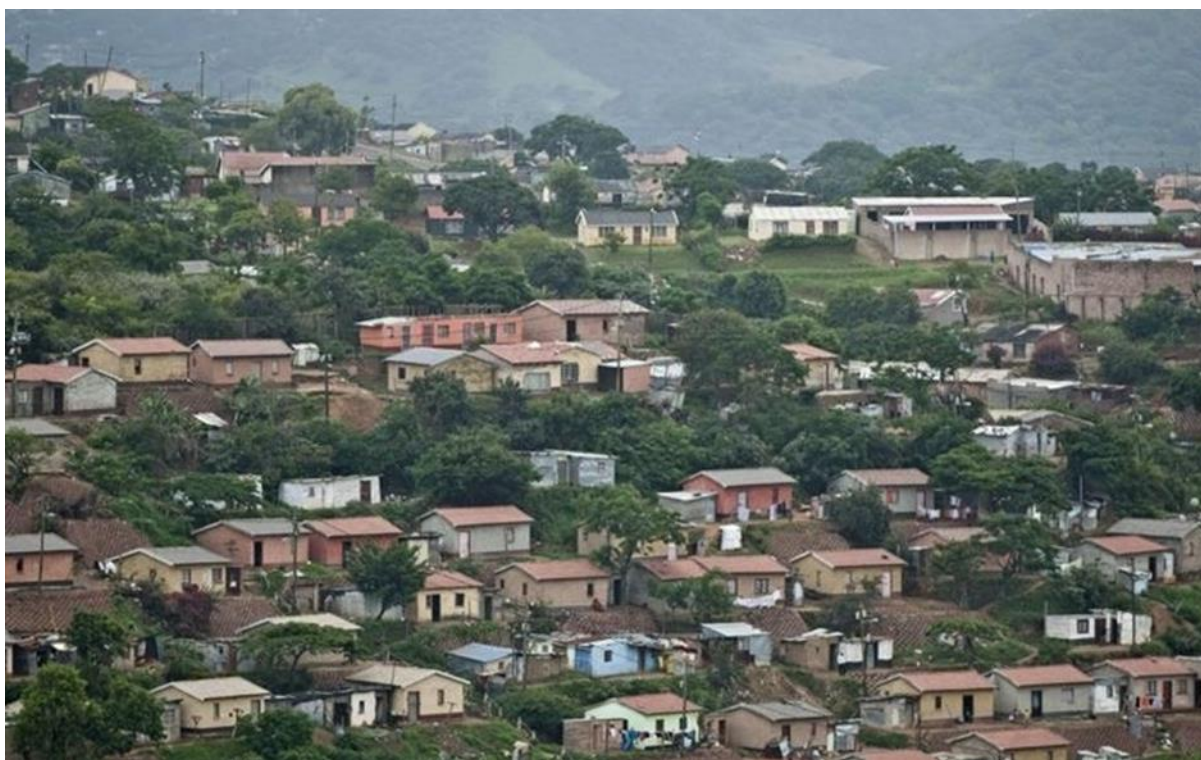


Image: Taken from Umlazi (Q-section), 22 October 2018

The above representation displays the nature of the Umlazi (Q-section) area. The domiciles observable in the portrait depict the setting of the area, and designates to the one viewing it that the type of populaces from the study area are at the mercy of the government since these low-income houses are part of the policies as having been aforementioned at the commencement of this study in Chapter 1. The government-funded houses form part of the Reconstruction and Development Programme (RDP) policy.

Definition of important concepts

The following concepts are key to this entire study and therefore, I have presented different definitions that the reader can refer to in order to better understand the study.

Community:

The South African Sanitation Policy (2016) defines a community as a group of persons having a mutual interest or existing in one geographical place underneath the same law and regulations. According to Goel (2014), community refers to “people living in a place who have face-to-face contact with each other”. Community denotes a crowd of individuals that live in the same demarcated area sharing similar basic values, organisation and interests. The phrase can also refer to a casually ordered social entity which is typical of a sense of identity. Brieger

(2006) asserts that a community is a populace which is physically focused but which also survives as a distinct social entity, with a local shared identity and corporate determination.

Garbage:

Garbage is used interchangeably with refuse, trash and waste. All these phrases share a similar meaning. Solid waste or garbage is frequently comprehended as a form of refuse that is not in a liquid state. Garbage refers to anything that is regarded as worthless or useless and that is now discarded. The European Union defines waste as "an object the holder discards, intends to discard or is required to discard" (<http://data.europa.eu/eli/dir/2008/98/oj>). The United Nations Sustainable Development Glossary of Environment Statistics understands waste or garbage as "materials that are not prime products (that is, products produced for the market) for which the generator has no further use in terms of his/her own purposes of production, transformation or consumption, and of which he/she wants to dispose".

Garbage collection:

The English Dictionary (2018) describes garbage collection as the process or action of collecting refuse for disposal. This is a service or action in which waste is taken away from its primary point in order to be disposed or treated. According to Wikipedia, this is the transfer process of solid waste from the point of utilisation and disposal to the point of landfill or treatment.

Basic sanitation services:

The South African Sanitation Policy (2016) defines basic sanitation services as the delivery of a rudimentary sanitation facility which is naturally sustainable, easily reached by a household and a user, the maintainable operation and conservation of the facility, including the harmless removal of social waste (garbage liquid and solid).

Sanitation services:

The South African Sanitation Policy (2016) defines the sanitation service as the gathering, removal, treatment and/or disposal of anthropological, domestic, collection and/or disposal of municipal waste.

Consumer:

The South African Sanitation Policy (2016) defines the consumer as a community member, individual, end-user who obtains sanitation services from a sanitation institution.

Service delivery:

This is the provision of the services required by the citizens of a living area when simply put. According to Nealer (2007:148), service delivery refers to the distribution of public activities, welfares or gratification. According to Matibane (2010), “service delivery is conceptualised as the implementation of specific types of policy objectives in the public sector with various degrees of success”.

Sanitation:

Generally refers to the measures essential for the improvement and protection of the health and welfare of the public. It is the system that indorses apt discarding of wastes, proper utilisation of the toilet and the prevention of open space defaecation. “Environmental sanitation comprises disposal and treatment of human excreta, solid waste and wastewater, control of disease vectors, and provision of washing facilities for personal and domestic hygiene”, (Pore and Randive, 2014). According to the Business Dictionary, sanitation refers to the “activities aimed at improving or maintaining the standard of basic environmental conditions affecting the well-being of people. These conditions include (1) clean and safe water supply, (2) clean and safe ambient air, (3) efficient and safe animal, human, and industrial waste disposal, (4) protection of food from biological and chemical contaminants, and (5) adequate housing in clean and safe surroundings”, <http://www.businessdictionary.com/definition/environmental-sanitation.html> (Accessed 03 January 2019).

1.5 Rationale

Most research endeavours conducted under Public Policy as a discipline in Social Science are undertaken to understand policy-related challenges that compromise the overall state of human beings as voters as well as citizens. In the scope of Public Policy, sanitation problems are a public policy concern. Public Policy analysis takes interest in understanding the provision of the policy in order to identify problems with the hope of making a significant contribution in the realisation of such. This is one of the issues considered as burning issues highly debated among scientists as well as the policy-makers, particularly as it affects the basic human rights being that of living in a clean, health and a safe environment and developing countries like South Africa (Guerrero et al. 2013). Policy analysts agree that solid waste is a by-product material closely related with our daily lives as humans or public and is an impact of basic living conditions provisions of good governance particularly accountability, transparency and openness as well as efficiency in the provision of services to those listed as direct beneficiaries

. Public Policy is a discipline that addresses, reviews and introduces policies intended for the development of the public or humans. In a developing country like South Africa, the mismanagement of sanitation which is an assured Constitutional right as service delivery speaks to the setting up of services by State organs to the community. In several societies that undergone significant industrialisation movements, the management of refuse was influenced by policy developments in amalgamation with technological selections at hand (Durgekar, 2016). A comprehensive range of solutions, know-hows and procedures are in existence. Most of which bear progressive and adverse points. Thus, these necessitate a relative study on a case-by-case base prior to policy decisions being made (Wan, Shen, & Choi, 2018).

1.6 Objectives

Wanjohi (2014: 11) suggests that research objectives are derived from the drive of the study. Through the research objectives, the researcher sets out that which is to be accomplished in a research study by specific terms. On the basis of this definition, I as the researcher explain research objectives merely as comprehensive and detailed ways through which a study wishes to reach.

The core aim of this study was to establish the challenges that come with the delay, poor or ineffective garbage removal or solid waste management or lack thereof has on the lives or health of the residents of Umlazi (Q-section) under the eThekweni Municipality in the province of KwaZulu-Natal. The objectives of this study are as follows:

- (i) To probe the reason behind not collecting the solid waste.
- (ii) To unearth the negative implications of ineffective waste collection on the health of the residents of Umlazi (Q-section).
- (iii) To establish the coping mechanisms that the community members employ to help them cope with these negative implications.

1.7 Research Questions

According to Porush (2014), research questions guide and centre your research. It is imperative for a researcher to include research questions as these may act as guidelines on what is to be studied. With the research questions, the problem behind this study will be outlined and this is facilitated by the methodology when collecting data. The following questions (although not limited to) are to be addressed in this research:

- What is the reason behind the ineffective collection of solid waste?

- What are the negative implications on the health of the residents of Umlazi (Q-section)?
- What are the coping mechanisms employed by the community members in order to cope with these negative implications?

1.8 Chapter Outline

1.8.1 Chapter One

This chapter informs the beginning of the thesis by discharging the general challenges in the world and particularly, KwaZulu-Natal with regard to service delivery in the scope of sanitation (refuse collection) and the challenges emanating specifically in Umlazi (Q-section) under the eThekweni Municipality as the custodian of the policy. The chapter gave an overview the problem statement and expanded to tell where the problem is mostly experienced. Under this chapter, the reason behind this research study and the objectives the research wishes to find are provided.

1.8.2 Chapter Two

The aim of this chapter is to explore the relevant theoretical frameworks and deliberates the literature around municipal solid waste as a public policy. Relevant theories which are the welfarist and modernisation theories have been discussed and guide the literature. The literature review discussed in this chapter makes provision of the preliminary findings on the existing challenges to the effective municipal solid waste management policy i.e. challenges that come with the delay in collecting community waste bags in general on an international, national and local level.

1.8.3 Chapter Three

This chapter then provides acumen to the research methodology guiding this study. In other words, the critical discussion of the employed process of data collection in this study will be delivered by indicating the nature of the study. Finally, this chapter will also highlight the ethical issues having been met including those applied.

1.8.4 Chapter Four

This chapter stretches a detailed presentation of the data collected, or about the findings of the study discovered from the interviewees. It provides an analysis and discussion of the data with regard to the challenges that come with the delay in collecting community garbage bags at Umlazi (Q-section) as having been gathered from ten (10) interviewees. The chapter also

deliberates the established challenges at Umlazi (Q-section) in relation with the literature review advanced in this study.

1.8.6 Chapter Five

This chapter makes provision of the overall inferences pertaining to the contests to the collection of the municipal community waste bags at Umlazi (Q-section). Furthermore, it makes a synopsis of the discoveries of this study with regard to the challenges that come with the delay in the collection of the municipal community waste bags as having been discussed in the literature review of this study by drawing a close attention to the set forth aim and objectives of this study. Essentially, a provision of the summary of the findings is sought and the meanings of the findings in as far as addressing the aim as well as the objectives of the study. And this made through linking the findings made therein to the rest of the study.

1.9 Conclusion

The above sections were an introduction to the thesis. With the aid of the map, chapter one gave the reader a detailed view of the study area of Umlazi (Q-section). Service delivery is a complex global phenomenon and with the changing times, countries getting more urbanised, the demand for provision of basic services is growing. Sanitation is an essential part of living and can pose detrimental health threats if not properly managed. The reader can expect to read more about the literature review of the underpinning fundamental concepts germane to the study. The following chapter comprises of policies, legislation and debates associated with the provision of public service and the approach of sustainable development, considering its practicality in the context of municipal solid waste management as a South African policy, the relationship between the solid waste, livelihoods and environment. It also analyses issues and debates in relation to the health and environmental problems of the municipal solid waste management. Literature is also drawn from other areas on an international and local experience on application of the municipal solid waste management.

CHAPTER 2:

LITERATURE REVIEW

2.1 Introduction

Delivery of numerous public services is one basic charge of the State in numerous countries across the globe. Although with the development of the market, numerous services are accessible through the private sector. However, some of the essential services persist to be provided by solely the State, owed by the nature of such services. These include significant regulatory services for upholding order, cleanliness and health in the society by warranting adequate public norms and service delivery by the government institutions and are established through Acts and rules, which every stakeholder has to act in accordance with (e.g. environmental conservation, municipal solid waste management etc.). Part of the problems facing the contemporary societies, possibly in every country of the world is the municipal solid waste. Hence, this chapter is presented to give a reflective experience captured by different researchers over time. Municipal solid waste is generally understood as the refuse or garbage that is generated and discarded on a daily basis by people. The management of such waste which includes the collection and disposal remains a mandate of the State. This basic service delivery charge varies from region to region. This is evident in South Africa and other countries whereby the provision of this service rests under the local government i.e. municipalities. Hence, it is referred to as Municipal Solid Waste Management. Policies meant for the environmental conservation are highly pivotal as they safeguard the public and the environment from detrimental exposure and ultimately ensure public health. Policy frameworks of service delivery in the scope of sanitation will be deliberated in the following sections in order to better understand the global and local conditions. The reader can expect to read about the international and local experiences of the sanitation policy, the policy frameworks and the part played by the municipalities in the execution of the policy.

2.2 Literature review and its significance in research

The Oxford English Dictionary defines literature review as, “An extended scholarly essay, (usually) based upon original research, submitted for a degree or other academic qualification”. Simply put, literature review demonstrates what has been completed in the research field and how the envisioned study relates to previous research. According to the Western Sydney

University Library (2016), “The purpose of a literature review is to gain an understanding of the existing research and debates relevant to a particular topic or area of study, and to present that knowledge in the form of a written report”. Another understanding of the purpose of the literature review is, “To determine what is known on the topic, how well this knowledge is established and where future research might best be directed”, (University of Melbourne, 2013). Literature review is of cardinal significance in research as it shows that the researcher has read and comprehended what already exists about the intended study of their choice and plays a role in the research study by giving it a sound weight and giving the reader the relevance of what is under review or inquiry.

The international/global snapshot of how waste is generated and classified

A worldwide portrait of Solid Waste Management to 2050 issued by the World Bank (2018) concurs that people are internationally living in dirt and the report further predicts that people will literally be living in waste if nothing is done. The report gives an indication that the world produces 2.01 billion tonnes of municipal solid waste annually. Let alone the uncounted litter that is disposed in illegal dump sites as well as the one which continues to be uncollected from the street pavements in most developing and developed countries. Metal is reported to be contributing only 4%, glasses contribute 5%, plastic contributes 12%, paper/cardboard contribute 17%, and food contributes a bigger percentage which is 44%. The content of the report further reports tonnes of litter that are annually generated by countries with East Asia and the Pacific contributing 468 million tonnes, Europe and Central Asia contribute 392 million tonnes, South Asia contribute 33 million tonnes annually, North America 289 million tonnes, Latin America and the Caribbean 231 million tonnes, Sub Saharan Africa 174 million tonnes, Middle East and North Africa only 129 million tonnes annually.

The United Nations Habitat Report (2010) provides that one of the unconsidered challenges in the field of refuse collection and management is the disregarding of the significant dissimilarities between geographical constituencies, between nations, between cities and even within a city. The mistake that has been overlooked for many years is that governments have trusted that international consultants, engineers who have studied overseas, and decision-makers who believe in the one size fit all approach often undermine that some systems will not equally fit well in other countries. Hence the approach to mitigating garbage should be uniquely responded to without benchmarking with other countries, be it developed or developing.

Contributors of solid waste

Some countries mostly sell food that has mostly been prepared, either frozen or tinned. In other countries and in big or smaller communities, poultry is bought alive and vegetables are purchased with substantial further material in addition to the part that is consumed (maize is a good example). If fruits and vegetables are cheap and plentiful, and often spoiled when being transported, large quantities may be cast-off onto the streets. Different types of fruits and vegetables generate different amounts of waste which is usually counted as litter as most think that it will decompose and grow again. Different types of fruits and vegetables contribute to the accumulation of waste. Improperly disposed fish scales and bones contribute to air pollution leaving people to inhale smelly air. Affluent families also contribute to tonnes of generated waste, they generate papers because of high literacy levels and they purchase different newspapers and magazines with they read in order to be informed about what happens locally as well as internationally. Once they are done with reading these newspapers or magazines, they often discard them and this contributes to the existing tonnes of solid waste. Affluent peoples are likely to dispose of durable items (such as used clothing and electrical equipment) as they become obsolete, in lieu of repairing them and this contributes to uncontrolled garbage as municipal vehicles are not programmed to grind such items. Some tonnes of garbage are contributed to by the construction and/or demolition of buildings through which waste is not attended.

Delays in the collection of waste is also a contributory factor as most communities expect a daily or a weekly collection of waste. How and where garbage is collected also contributes to tonnes of uncollected garbage as most people expect the municipality staff to pick garbage bags from their wards or even on their tenth floor of their flats. Others are not given refuse bags to store and even sort their generated litter. Some residents feel as if it is the responsibility of the government to supply garbage bags hence they just throw their litter onto the ground. Lack of waste management knowledge and information is categorised as a contributory factor to the experience era of garbage. Labour costs and unemployment are also listed as major contributors to the existing high waste. Across the globe, industrialised countries have developed capital-intensive technologies for collecting solid waste in order to keep wage bills and total cost down to the minimum. Cheap labour has contributed because most people are underemployed and not trained to control the litter and are mostly employed by sectors under cheap rates to control and even drive waste management vehicles. Subsequent to cheap labour, work-related

standards are compromised because skilled people do not get the jobs and those who expose themselves to cheap labour are usually the ones without the desired experience and that contribute to the delay in the collection of waste as well as the maintenance of landfills. Some municipalities have outsourced the collection of waste and lack a monitoring plan that supervises how service is rendered. That on its own, contributes to the accumulation of waste because service providers collect as and when they feel like doing so and not because they are policy and politically mandated. Recent high temperatures as a result of climate change have contributed to the waste that has terrible odours causing people to experience lung disorders.

2.3 The international scope of service delivery in relation to garbage removal/collection

Various methods of municipal solid waste management exist and differ from country to country and even on city to city. The modernisation theory delineated in Chapter Three of this thesis as well as Minghua et al. (2009) cited in Yoda et al., (2014: 202) argue that the rapid growth in total population, booming economic opportunities, rapid urbanisation and the rise of community living standards have generally contributed to and accelerated the municipal solid waste generation rate in the developing countries. Uncollected waste products have adverse effects on people. Landfills as the simplest and indigenous way of taking care of the waste have been minimised by the scarcity of land to build infrastructure. Yoda et al., (2014: 202) further state that “those who have landfill and other street disposing facilities are currently facing health issues because such disposing facilities have become the breeding ground for pathogenic microorganisms and vectors of diseases, and cause a public nuisance due to unsightliness and bad smell”.

The management of the municipal solid waste is an obligation of the local government ultimately overseen by the State or the federal acts in the United States of America. Whilst there may exist no set rules or regulations guiding the collection or management of solid waste, there are however all-encompassing acts that require compliance with during the process (Vergara, 2012). As part of service delivery, each country has its policy when it comes to the management of solid waste and in the United States, the Clean Air Act and Clean Water Act controls the amount of pollutants that can access the both the atmosphere and waterways without having to harm the welfare of the contiguous ecosystem and the public living within it (Vergara, 2012). These Acts guide the framework pertaining to the management of waste coinciding with an area.

Chapter 1 confirms that the management of waste encompasses many aspects and includes various agents (garbage contributors and service providers). It begins with the consumer of a product and ends with the government being the collector and the assurer of basic human rights (South African Sanitation Policy, 2016). Hoornweg (2012) asserts that there exists no such a thing as “throwing away” your refuse since that refuse will always be on earth, in a landfill or remain on air due to the process of incineration. It is hoped that once people start to realise this as a reality and change their mindsets, the waste stream will subsequently be limited and release the tension off the waste management aspects that remain. The succeeding step is usually the collection of solid waste and this varies from location to location. Common methods of collection include the door-to-door or kerbside collection, community bins, contracted services or even self-delivered (Hoornweg, 2012). It is also pivotal to note that the collection of waste varies on the basis of the income of the area. The municipal solid waste composition is determined by a large number of influences such as the lifestyle of the people, their comparative standards of living, overall end user patterns, and the level of advancement in technology of a particular country (Mavropoulos, 2011). Income of the area plays a significant role in the process of waste management. Collection in the low-income areas is in most cases insufficient and limited in comparison to the high-income areas whereby waste collection is on a regular basis and through industrialised trucks as well as compactors to pick up the municipal solid waste (Hoornweg, 2012). What follows the collection of solid waste is the transportation to a disposal site. These are services rendered to the public by the government as part of service delivery.

The most leading country in the production of waste is the United States and it is followed by most developed countries, whereas the leading nations in the environmental regulations are the United States and member States of the European Union (Gouldson, 2015). In the 1960s and 1970s, the United States used to be the driving force of the environmental policies, although in the recent two decades it has not signed and sanctioned any international environmental agreements (Gouldson, 2015). On the other hand, since the 1990s, the European Union has been at the centre of environmental policies by encouraging sustainable communities (Pires, 2011). The European Union has signed over sixty environmental agreements on an international level in the previous two decades (Gouldson, 2015). Conversely, one cannot see the picture by simply looking at these numbers. Environmental leadership can be demonstrated through the Integrated Solid Waste Management (ISWM) technique (Hoornweg, 2012). This is an inclusive approach for sustainable management which considers all stakeholders and

systems involved, looks at the existing connection, and considers the effects on the environment, public health and the resources used.

Data collection of municipal solid waste is not consistent around the world and is not frequently conducted (Vergara, 2012). Relevant parties do not seem to be reporting on the same contributing factors. The implications of this inconsistency of data is that specific data points may not precisely echo the sample population as well as associated challenges at a particular period or even over a larger temporal scale and this confirms that while the delays in the collection of garbage may be an international experience, factors that lead to such may be pandemic or may be due to localised challenges faced by service providers. Hence, countries must take responsibility to do their own local research on the issue.

BioCycle's State of Garbage (SOG) report and the EPA and Franklin Associates' Municipal Solid Waste "Facts and Figures" reports the two major sources of data in the United States. Nonetheless, even these two main sources show a great deal of discrepancy on their data and results. Regrettably, their ways and means cannot be likened due to Franklin Associates keeping theirs private (Kaufman, 2009). Other data points that remain mysterious include how the municipal solid waste affects climate change, resource depletion, and energy consumption (Pires, 2011). By regulating not merely what necessities testing, but also the approaches, outcomes can be more correctly compared. This relates to the United States, but then again also to the rest of the globe where municipal solid waste tests are taken. Nevertheless, when it comes to the regulations, they ought to be practical in the top nations of waste production and environmental protocols to act as a role model to the emerging nations.

After World War II, landfills were the principal method of waste disposal in the cities which later changed to discarding in open space (1960 onwards). Consequently, a large municipal waste stream had a higher plastics content (Wolsink, 2010). That being the case, one can note that the foremost contributor for the solid waste generation is the domestic sources which contributes a total of 48% compared to that of construction and others forms of waste that exist. This shows that the domestic waste needs to be controlled for the sustainability of healthy living spaces (BRCorp, 2014). This is supported by this statement, "the amount of solid waste generation is largely influenced by two factors: first, by the populace of any given area, and followed by the consumption patterns controlled by the evolution of the Gross Domestic Product per capita (GDP/c)", (Mavropoulos, 2011). This implies that the increase in the number of the household means an increase in the average generation of solid waste. The relationship

between human population, waste generation and per capita waste is clear. Furthermore, it gives the idea that in a population, individuals are the originators of waste.

The second most populated country in the world is reported to be India, after China. According to the Census (2011), the population of India is estimated to be of 1.21 billion people and this population has a contribution of 17.66 % of the entire global population. Owing to the increasing growth of human population and the rapid urbanisation, cities will be grow to be bigger and denser and subsequently, more generation of the municipal solid waste (Greedy & Thrane, 2008).

Weiner & Matthews (2010) assert that in the developing countries of Asia, what characterise the waste management system is the process of street sweeping by sweepers hired by the municipalities due to the fact illegal dumping on the roadside and/or in other public spaces is a common practice. Such sweepers make use of simple tools and facilities. Plastic bags or other containers exist and are made provision for by the municipalities for the placing of waste from households and ultimately stored at different centres of collection. In the end, collection of these community containers with community waste is done by municipal vehicles or hand-operated carts alongside the road. Household waste is generally collected every once a day in the Asian cities.

According to the EPA (2009), whereas the legislation for water and air pollution are inclusive and well established in the Asian developing countries, legislation for the management of solid waste is not comprehensible. It rests as the responsibility of the municipal government to see to the management of solid waste. In the developing Asian countries, solid waste management is characterised by major issues like scanty policies, legislation, long-term strategies, technological knowledge and the lack of awareness.

The EPA (2009) together with Van Dijk (2016) further report that in Sri Lanka, the management of Municipal Solid Waste is a growing difficulty. The Municipal Solid Waste management problem has a direct relationship with urbanisation and industrialisation. For that reason, matters related to MSW are more severe in cities and in the urbanised areas than they are in the rural areas. Nevertheless, the management of MSW is legally treated as a subject for the local government in Sri Lanka. The focus of policy analysis and evaluation is mainly on the process of policy formulation, policy implementation, and policy evaluation. Price regulation, service quality regulation and access to information regulation form part of the three mechanisms. What may be a wonder is whether it is a question of working in a setting in which

people have confidence or that of a good controlling framework. Operators seem to have confidence in new policies in the countries like Tanzania and China and that facilitates the implementation of the policies (EPA, 2009).

At all levels, including that of the government and like in all other developing countries, the environment is receiving a growing concern in Bangladesh for an efficacious and economic management of environmental problems. The Ministry of Environment and Forestry in Bangladesh is the jurisdictional body for the making of environmental policy, regulations, standards, and enforcement. The duty of the Department of Environment is the implementation of these environmental policies as an agency. In the fourth Five-Year Plan (1990) the regime's environmental intentions have been described as follows:

- To govern the pollution and degradation of soil, water, and air.
- To stimulate activities which are environment-friendly in the development process.
- To promote the preservation, protection, and development of the natural resource base.
- To facilitate the strengthening of competencies of the public and private sectors to administer concerns related to the environment as a rudimentary requisite for sustainable development.
- To generate public awareness to promote participation in environmental activities (Kamalski, 2010).

Conversely, on legal front of the issues related to the environment the initiative has been far from satisfactory. Lack of awareness as well as the technical knowledge which is the major factor that is causing the deterioration of the environment has compounded this.

Among other things, deficient and ineffective collection of waste, storage and disposal are one of the environmental issues in Namibia. As a result, public health as well as the aesthetic nature of the environment are threatened by such conditions. According to Re'Source (2010), inadequate bins inside the domestic or living areas and commercial properties leads to waste collectors having to gather waste that is loose, which is a tedious routine and of course there exists the unruly part of wind-blown litter. As if that is not enough, the existing problem is exacerbated by the conventional open trucks which are without covering nets and are utilised for the collection of waste. The United Nations Habitat Report (2016) points out that the experience of piled-up waste has been as a result of the storage, transportation as well as the disposal of waste. The report further illuminates that the waste experience has been contributed to by the unclear or uncommunicated collection schedules (i.e. the frequency and/or time of

collection e.g. in a day, in a week, shift working). Most people find themselves chasing after a passing refuse car and end up disposing their garbage on the street as an indication of being dissatisfied with the provision of service. Sometimes communities do not have waste bins also known as street or community containers available on the streets which makes it impossible for them to dispose waste properly. Another important point that this report has mentioned is that some municipalities are far away from the people that they render services to. This is seen when bottlenecks in service delivery are articulated. They are usually discussed in the absence of people who are direct service beneficiaries. People are often not consulted by authorities and that distort the provision of service delivery. The advice that this report offers is that, the battle around waste management can solely be mitigated when waste generators are involved in strategies that authorities deem as ideal. Secondly, strategic plans should have an extended period e.g. five to ten years with a clear monitoring and evaluation and an uncompromised budget.

Kaufman (2009) and Pires (2011) concluded in their independent researches that as a result of the lack of funds by some municipalities, not enough labour exists to carry out the proper or effective management of waste. If funds are available, municipalities lack the efficacy which consequently compromises the collection of waste on the streets, the maintenance of disposing bins, the absence of innovative methods to keep the streets and ensure the safety of their personnel. Furthermore, municipalities lack the necessary equipment to clean communities such as wheel barrows used to pick up sticks or scoops, sweeping brooms.

Re'Source (2010) further submits that the lack of awareness when it comes to waste, as well as the low priority which is given to the solid waste management as a municipal service, can in fact be attributed to a large extent, the problem in Namibia. Implementation of educational programmes which are related to waste management have been created in order to raise awareness. Undoubtedly, residents of any community require knowledge about the management of waste in order to combat this problem facing communities. Vehicles for the collection of waste were improved, and both the residential areas as well as the commercial properties have seen the installation of waste bins. Through this practice, waste has not lied around the streets. In order to facilitate in the identification of the needs of different areas in Namibia, as well as to have strategies implemented in overcoming the problem of waste disposal, research was conducted.

Municipal Solid Waste methods can have an adverse effect on numerous aspects of the natural world, which include the soil, water, and air, as well as the health of various organisms, including humans (Vergara, 2012). Waterways are mostly impacted from leachates of heavy metals and biological compounds from landfills, dumping and even composting, but then again can also get fallout pollution from waste incineration (Vergara 2012). Soil contamination can also be through the process of excess of leachates. This leads to heavy metals, biological compounds, and even bacteria and viruses to persist in the soil.

As indicated in the concept section, solid waste is commonly comprehended as a form of waste that is not a liquid form. The fact that it is waste, such has no value to the person who is responsible for it. Waste is something that will always be a part of our lives. “Waste is indissoluble from man, for as long as man lives, he will generate waste”, (Ojo, 2014). Babatola (2008) termed any material lacking direct value to the user and that must be disposed of as ‘waste’. Allende (2009) has said that waste has always been an early issue of mankind, and in its growing sense, it is becoming even more of global concern.

The Environmental Protection Agency of the U.S asserts that the perilous waste is a blend of wastes that constitute a prospective threat to the health of human beings or living organisms (EPA, 2009). The reason for this is the fact that wastes of this kind are non-degradable (meaning they cannot be broken down by natural processes or decomposed); biologically magnified and disastrous. Generally speaking, waste that is fraught with danger tends to prompt cumulative effect which is detrimental to those who may come into contact with it. Nevertheless, any and all type of waste can be damaging to our environment when it is improperly or poorly managed. For instance, when waste is not properly managed and is discarded into open spaces, that waste can lead to substantial complications to the environment, more so if that waste is lethal. This shows that waste can be detrimental to the health of humans and the environment which people reside in.

In Lusaka, both collection and disposal of solid waste is one of greater challenges. The scarcity of proper equipment and the resources which make provision for the waste collection services has led to the rampant illegal dumping of waste. Subsequently, the public health worsening as people suffer from diseases such as cholera, asthma and tuberculosis. With the intent to overcome the issue, an introduction of the Resource Cities programme has seen light. Through this programme, the city managed to establish an enhanced management approach for the waste collection services. Consequently, the city of Lusaka became more productive in the

development of a process through which it would regularly collect and dispose solid waste. In Zambia, the citizen's awareness in relation to the health and environmental significance has been sharpened for proper disposal of waste by the programme. Such a programme has instigated campaigns which deal with public education by the utilisation of brochures, announcements through the radio and public meetings to aid in the development of environmental awareness. Officials in the local level worked diligently in order to draw the attention of citizens including the non-governmental organisation into the process of reforming the system of the collection and disposal of refuse. Consequently, the campaign led to the partnership of various people sharing work interests in order to enhance the quality of the environment (The U.S. Department File Program, 2012).

Dudley Street Neighbourhood Initiative (2013), states that the fact that the proper facilities do not exist for certain type of waste like clinical and batteries makes certain that the environment consequently endures our bad habits as people. For instance, solely two landfill sites exist in Greater Banjul Area in Gambia, Africa, for the entire area apart from the MRC incinerator. These are the municipal landfills both at Mile Two and that which is in Bakoteh. As a result, a wide range of waste disposal occurs in these without the consideration of the carrying capacity these landfill sites have. Conditions which do not favour the environment are evident in these two disposal sites. Also, those who work with the waste are facing health threats, and in addition to this, other dangers also exist, all of which are caused by the poor handling facilities. Industrial and clinical waste are part of the waste that is disposed in these landfill sites and both these types of waste can detriment both the environment and the health of people. In African countries, what constitutes a most common problem is the transportation of waste. Generally, the weather plays a fair role in the success of the process as waste can be blown off the streets when it is windy. It is rather a norm to come across plastic bags and other solid waste litter even after the vehicle which collects waste has passed through an area. In the end, we still remain with the exact dirt that we are trying to get rid of which leaves us with the same cycle of repeating one act for numerous times without reaching progress. This vicious cycle is what the environment in the city is undergoing.

2.4 The South African scope of service delivery in relation to garbage removal/collection

The process of waste management comes about within a multifaceted setting of ever-changing factors i.e. economic, social, political and biotic, all of which need to be taken into account in the advancement of any strategy relating to waste management. The phrase waste management

strategy suggests a holistic approach to the management of waste should not be centred on crisis management, even though allowance must be provided for this. It ought to be the execution of a rational and systematic discipline which has deliberated all appropriate possible courses of action and in which all sectors collaborate in an informed and accountable way to reach the best and feasible environmentally suitable option for the throwing away of any given waste (Lombard & McPherson, 2013).

Chapter One of this thesis confirmed that humans and the industries in South Africa are responsible for the waste that they generate. In most instances, the households are no longer relying on the indigenous practices for the disposal of waste which are burning and burying of waste in the yard. The United Nations Habitat Report (2010) confirms that these indigenous practices have fallen away as people have started adopting the “Not in my back yard syndrome” which gives an indication that once the garbage has been accumulated consumers distance themselves as they believe that it is the responsibility of the municipality to collect and dispose it adequately. There has not been any literature for the Umlazi Township area. This means that there is an existing gap in terms of the literature on the sanitation experience of Umlazi as a geographic place or even one of its Sections hence this study is conducted to fill the gap. Ogola et al., (2012) conducted a Case Study in Limpopo, South Africa which defines six general sources of generation of waste in Polokwane. These sources include: domestic, agricultural, industrial, commercial, institutional and natural.

- The highest producers of the domestic waste are undoubtedly the households. Domestic waste comprises, among others, plastics, paper and cartons, glass, cans, and leftover food.
- The key agents of producers of commercial waste are stores, markets, business premises, and restaurants.
- Waste as a result of the construction and demolition debris and outlets for food processing is what is meant by industrial waste.
- The waste that results from the livestock, dairy and poultry farms, and various other agricultural activities including the vegetation cultivation are what is meant by agricultural waste. In most instances, agricultural wastes comprise of biodegradable components.
- With regard to institutional wastes, the major producers are offices, banks and schools. Such a type of waste includes paper and cartons.

- The last type of waste, the natural waste comprises of seeds, tree branches, leaves, and remains of animals.

Ogola et al., (2012) further used the collection of data on waste management in Polokwane. The data gathered were exposed to numerical analysis in order to find out whether there was any noteworthy relationship between the amount of waste obtained and the income groups. The significant connection was established on 95 % level of confidence.

The study concentrated on the generated domestic solid waste within the three carefully chosen residential areas of Polokwane city, specifically: Ivypark which is a low-income, Flora Park which is a middle-income, and Sterpark as a high-income area. The highest was food waste across all three income groups with a proportion of 34 % of waste generation. The inclination of wastes generated was as follows: The inclination of wastes generated was as follows: paper - 20 %; plastics - 18 % ; glass -11 %; cans - 11 % and only 6% contributed by garden waste.

Ogola et al., (2012) affirms that wastes there was no sorting when it comes to wastes from the households. In lieu, the refuse bags had a mixture of all the wastes which were collected from the individual households without being properly arranged. Due to this, recycling of wastes which is from the homes is not practical, and by this means, quality of recyclable wastes is reduced, like that of paper and cardboard because wastes are mixed. In each suburb, the collection of refuse bags from the households is effected on a weekly basis on a designated day. Refuse bags collection in Ivy Park for instance, is on Wednesdays whereas in Flora Park, it is on Wednesdays, and Tuesdays in Sterpark. The quantity of waste gathered on a weekly basis from the domestic areas and city centre totals to 456 m³. The system relating to collection of waste is quite effective, hence no refuse bag is left by the road side to litter the city in either of these locations.

Ogola (2012) points out that at present, the Municipality of Polokwane City has not employed any recycling programme. Of the waste dumped in the landfills, 60 % has been discovered to comprise of the recyclable waste. Even though the Municipality of Polokwane City does not have an official system for waste recycling, it was gathered that the dumping site has informal reclaimers of waste that are practicing the collection of recyclable wastes on a daily basis.

Ogola et al., (2012) make the following discussions and recommendations:

This study points out that the generation of waste in the three varying income groups is to be figured as 0.3-0.7 kg each person per day, which was dispersed as follows:

Low income group at 0.3 kg each individual;

Middle income group at 0.4 kg each individual and;

High income group at 0.7 kg each individual.

The quantity of the generated waste was low in comparison to the discoveries of the Baseline Studies (DWAF, 2014). In South Africa, the ordinary amount of waste generated per individual was discovered to be 0.7 kg per person. It was observed in general that the sum of waste produced by the three income groups was influenced by the socio-economic level of each group. It was discovered that the high income group generates more waste than the other two groups, i.e. low and middle income groups. This was regarded as being caused by the affordability of goods by this specific income group.

It is worth taking into account that the generated waste by each person in Polokwane City is lower than that which is generated by each person in Johannesburg. For instance, the typical waste in Johannesburg generated per income group ranged from 0.4-0.7 kg per person for the low income, 0.7-1.1 kg per person for the medium income, and 1.2-2.5 kg per person for high income (City of Johannesburg, SOER, 2003). In consideration of the fact that most residents based in Johannesburg earn more than their counterparts based in Polokwane, this is rather not surprising. Consequently, the affordability of goods by people residing in Johannesburg is expected to be more, of which will at the end be disposed of as waste.

Although the Municipality of Polokwane City has not employed a formal system for waste recycling, it was discovered during the study by Ogola (2012) that the dumping site had informal reclaimers of waste that are gathering recyclable waste on a day-to-day basis. Development of an informal settlement has resulted through this and it is close to the landfill. Those reclaim waste make the collection of all the reusable waste ranging from plastics, cans, card boxes, bricks and steel.

Whilst municipalities like the City of Cape Town and the City of Johannesburg have implemented recycling programmes, the Municipality of Polokwane City has not initiated a formal recycling programme. With the aim of achieving the Polokwane Declaration for Zero Waste target, this is one area that the municipality ought to explore (Trois et al., 2008).

Ogola et al., 2012 makes the following recommendations:

- Development of an integrated plan for waste management is a desideratum for the Polokwane City and the priority needs to be on the recycling of waste in order to reduce the final quantity of waste which is for disposal.
- There is a need for the development of an environmental awareness programme by the Municipality of Polokwane City which is recycling that is encouraged by placing recycling containers at strategic points for collection of recyclable wastes.
- The Municipality of Polokwane City needs to develop an approach of supporting separation at source for waste in the households
- The programme relating to cooperatives for picking of litter should be expanded to include recycling.
- The generation of waste is an essential component of waste statistics. Waste generation is a vital component of waste statistics. The validity of these figures is key to planning, development and monitoring strategies of waste management. The Municipality of Polokwane City needs to develop a monitoring system for waste sorting, quality and quantity.

These are services which the governments have policies to ensure provision for. Consequently, residents face the exposure to various kinds of diseases which include TB, asthma and other skin-related diseases. Policy failure has unfavourable consequences to the beneficiaries. Privatisation describes a system of detaching enterprises at the ownership or administration of the State or services made provision for by the State from the government control to the market forces. Privatisation is different in most African international countries from what has been defined above in that it features the aid of increasing the sphere of the market via a host of policies that can generate an enabling surroundings for free corporation to function as an approach for sustainable economic development. Privatising municipal services mostly refers to the limitation of local government activity inside the assumed service like the management of solid waste. Moreover, there is a curtailment in the ownership of local authorities.

Privatisation of solid waste services in South Africa can be perceived as lessening of big cities and municipalities undertaking through the participation of non-public sector as properly as the reduction of the ownership of government. Through the commercialisation of government institutions where the Municipal Corporation has restructured itself into an accountable and financially independent semi-private institution for the provision of a precise service, privatisation also comprises of the administration of contracts, concessions, franchise, leases, profits and pure private entrepreneurship. Privatisation can be perceived as a form of

subsidiarity of management functions from government to Private Corporation. It can also be comprehended as a transference of accountability for direct services and infrastructure (DSNI, 2013).

Numerous methods of privatisation in South Africa are installed countrywide. These consist of open competition, by which licenses are prorated for the provision by private companies. In open opposition, establishments by private households firms make non-public arrangements with individual companies for the provision of services. In this manner, no enterprise holds a regional monopoly which allows for any wide variety of corporations to also compete within the equal zone. The following mode is the administration of contracts that can be granted to private companies. In this approach of the administration of contracts, there is an assignment of municipal services under personal management for a particular length of time. The non-public sector has a widespread autonomy as detailed in the contract. Services which are operated under this method consist of stable waste management, public bathrooms and parking lots (DSNI, 2013).

The concession method labelled as a contractual arrangement, is where certain private businesses are granted a license to deliver precise services over a certain length of time. The ownership of fundamental belongings remains with the private company. In ordinary circumstance, concessions are presented after a competitive tendering procedure. In this way, there is a requirement on the part of the provider of the service in that they must offer services that are economically and socially imperative and need substantial improvement and is immense and commonly enjoys a monopoly role within an area (Dudley Street Neighbourhood Initiative, 2013).

A competitive tendering which is compulsory is whereby, via pressure of legislation, the city council has defined kinds of work to exterior opposition and the contracts are granted on merit. Such tendering process has happened in the privatisation of the collection and disposal of solid waste in South African cities where a wide variety of private companies bid for the award of contracts to deliver the services. The closing method is the altering of responsibilities where the services, which were previously nationalised, are re-allocated to the community-based organisation (CBO). Alteration of duties has also happened in the local areas where CBOs have been instituted and allocated provider duties. Changing responsibilities has also taken place at a local level where the CBOs have been created and allocated provider responsibilities. The participation of the private sector in the collection of solid waste is impulsive, unplanned and

open to competition without the regulation of NEMA. Laws and by-laws relating to solid waste, more so those on the disposal are violated by companies (Van Dijk & Oduro-Kwarteng, 2013).

Vergara (2012) has a comprehensive definition by stating that MSW is “all solid or semi-solid materials disposed by residents and businesses, excluding hazardous wastes and wastewater” (2012, p. 279). There are various definitions of MSW based on what framework it is produced or managed. The Intergovernmental Panel on Climate Change (IPCC) makes provision of further examples of waste, like paper, plastics, food waste, textiles, rubber, glass, and more (Hoornweg, 2012). Each society has a different quantity of the solid waste which is generated as numbers of residents and households vary from one community to the other. Practices of solid waste management can thus be appropriately selected to suit the variation of each society, and this way, suitable equipment can be utilised. The fact that rates of waste generation reach the highest during the holidays seasons and housecleaning days supports this statement. When residents are around in their homes, more waste is generated.

It follows that more waste will be collected in the case of unlimited collection waste service in a community. Each community area is different and so the waste collection service is unique and this can influence the quantity of the generation of solid waste in an area. To support this statement, one considers the quantities of waste from the garden that is generated in the affluent communities. In comparison to the low or medium income areas, such quantities are considerably greater.

In general, the provision of waste collection is made under various arrangements which differ from municipal services to private contractors. Different waste could include components like aluminium cans, glass, papers and card board and several other components. In the South African scope, waste separation is not something that seems to be in effect. Different types of wastes are mixed and this is evidently seen on the garbage that lies on the kerbside in the townships. The policy of Municipal Solid Waste should include educating residents about the separation of waste at the source in order to best manage solid waste. This should be the duty of the local government as part of service delivery.

The source of waste generation is the best suitable place for the separation of waste materials for reuse and recycling. Residents are now better informed of the significance of the separation of aluminium cans, bottles, newspapers and card boards. With regard to the residential solid waste, separating and handling solid waste at the very source prior to the collection is a critical step. Also, the separation of waste at the source is an element which is pivotal in the strategy

of solid waste management. What is a major concern is, after the waste has been separated at home, how the waste is stored by the owner of the home until it is collected. Until transferred for recycling, separated waste is stored in different containers in some homes. There exists bags or special containers where separated waste is stored (EPA, 2009).

According to the Environmental Protection Agency (2009), the type of container considered for use in the onsite storage is one of the factors that ought to be well-thought-out as it is carrying solid waste and this includes the contamination of waste components. Containers depend on the type of wastes for storage and collection. In most cases, the containers used in the collection of solid waste are plastic and metal containers. Conversely, limitations associated with such containers do exist as they are prone to damage either by the waste itself or during the handling by collectors. During the collection process, containers present an extra weight which must be lifted and often, containers are not large enough for bulky solid waste and this is how and when containers could be damaged. South African townships make use of disposable plastic bags in their homes for the storing of solid waste. These plastic bags are used alone or at times used as a liner inside the waste container. This type of storage poses problems as there are high costs which are associated with the storage bags. Also, what is a problem is that plastic bags can easily tear. Unlike in the households, the commercial and industrial firms often large containers to meet the demand for waste disposal. High initial costs are what constitute the main problem and the policy-makers fail to acknowledge this limitation upon framing policies.

2.5 Policy frameworks on service delivery and garbage collection

The Sanitation Policy (2016) confirm that South Africa has developed legislation and policies to address the challenges of service delivery in the wake of democracy since 1994. The very same policy acknowledges that service delivery challenges facing the nation include lack of access to clean water and adequate sanitation in the scope of garbage collection, shortage of housing, lack of education, roads and infrastructure. Policy-makers and government institutions are still considering some of these challenges. Legislation and policies relevant in the scope of service of delivery in South Africa include the Constitution of the Republic of South Africa (Act 108 of 1996); South African National Sanitation Policy (2016), White Paper on Local Government (RSA 1998b); White Paper on Housing (Republic of South Africa, 1994); Reconstruction and Development Programme (RDP) of the African National Congress (ANC, 1994) and the Local Government Municipal Systems Act 32 of 2000. These policies are what guide the service delivery scope in South Africa and provide a general approach in

different sectors. For purposes of this thesis which is based on the challenges that come with the delays in refuse collection in Umlazi (Q-section), the most relevant legislation and policy is the Constitution of the Republic of South Africa (Act 108 of 1996) and the Municipal Systems Act 2000 which for the local governments following the decentralisation of government systems after the democratic elections of 1994. Policies of this nature comprise of employable strategies to improve service delivery.

In South Africa, the governing of waste is by means of numerous pieces of legislation including the following as per Table 2.1:

• Environment Conservation Act (Act 73 of 1989)
• National Water Act (Act 36 of 1998)
• The National Environmental Management Act (Act 107 of 1998)
• National Environmental Management: Waste Act, 2008 (Act 59 of 2008)

The National Environmental Management: Waste Bill was signed by the President of the Republic of South Africa into an Act of Parliament in March 2009. It then followed that it take effect from the 1st of July of 2009. The objective of this Act is to address the contemporary fragmentation in the legislation of waste in South Africa. Municipal Systems Act (Republic of South Africa, 2000) which is under the Local Government provides for the involvement of communities in their own development. All these policy frameworks are administered by the South African government and involve both the public and private sectors.

2.6 The role of local municipalities and local councillors in relation to service delivery and garbage collection

Local governments are normally liable for the collection and disposal of the generated wastes within their jurisdiction and this normally includes the operation as well as the maintenance of their equipment. Nevertheless, local governments commonly lack the power and resources to deliver an adequate and economically feasible service. Effective and efficient solid waste management is determined by an equitable delivery of accountabilities, authority and revenue between the national and all the local governments (Norley, 2009). As part of the decentralised government system which came after the democratic elections of 1994 in South Africa, there exists different roles between various stakeholders to ensure service delivery. Local governments have a duty to render services to the public. The executive power to deliver water

and sanitation services falls, in terms of the Constitution of the Republic of South Africa (Act 108 of 1996), on local government which in this case, is the ANC-led government. The statutory legislative framework for effective management of local government consists of the Local Government: Municipal Structures Act 117 of 1998, the Local Government: Municipal Systems Act 32 of 2000. At the end of the apartheid era, the new government had to draw up a new Constitution to meet the needs of what was to become a new South Africa. The Local Government: Municipal Structures Act (Structures Act) provides for the establishment of municipalities and the divisions of functions and powers between categories of municipalities. Categorised into metropolitan, local or district, each municipality is required to review the needs of the community, its priorities to meet these needs, processes for involving the community, organisational and delivery mechanisms for meeting the needs and its overall performance in achieving the objectives.

The Constitution of South Africa (Act 108 of 1996) remains the supreme law of the country. The constitution provides a frame of good governance and clarifies services that government in various spheres should carry out. The constitution provides the foundation for sanitation environmental regulation and policy in South Africa. The right to environmental protection and to live in an environment that is not detrimental to the health or well-being is set out in the Bill of Rights (Section 24, Chapter 2). This fundamental right underpins environmental policy and law, in particular the framework environmental legislation established by the National Environmental Management Act, 1998 (Act No. 107 of 1998). The National Environmental Management Act (NEMA) provides an overarching framework for the regulation and sustainable use of natural resources in South Africa. The NEMA is crucial in terms of implementing the constitutional provisions on cooperative governance in environmental matters. It creates the institutional set-up for the development of norms and standards for the implementation of the environmental legislation and provides for generic monitoring and enforcement provisions. Among these are the duty of care provisions and obligations to control and remedy pollution generally.

The hiring of the human capital responsible for sanitation is effected by the private firms. The municipalities award contracts for the municipal solid waste management tenders to private and community-based companies. Conversely, sanitation workers often receive little or no clothing which protects them from the waste management that employ them. In addition to this, sanitation workers do not earn enough wages, and thus, they are unable to buy clothing which is appropriate for their protection. As a result, sanitation workers suffer more exposure, and

hence, possess a turnover which is a high rate, higher incidences of sick days and accidents which are work-related, as well as a higher mortality rate than the rest of the city's population.

The National Gazette of South Africa makes provision for the disposal of waste and the environment as a whole. The Environmental Conservation (Act 73 of 1989) makes provision for the doctrines that should be adhered to by the Minister when issuing a permit for an operation of any site for waste disposal. Constitution provides for the right to the Minister of Water Affairs and Forestry to revise or withdraw any permit or condition in the permit and the minister may reject the issuing of a permit (subsection 1). This Act also states that no person is permitted to discard waste in any other means except at site for waste disposal for which a permit has been issued. The approval shall merely be issued after deliberation of reports regarding the effects of the suggested activities and alternative projected activities on the environment.

2.7 Conclusion

Municipal solid waste management is one of the basic services that are delivered by the national and local governments around the world. This is particularly so because sanitation is something that affects the lives of every living human being. Ineffective or poor management of the municipal solid waste, or the lack of delivery of sanitation ultimately leads to serious health problems and deteriorates the sustainability of the environment which humans and various other living organisms live on. Thus, numerous public authorities around the world have the provision of sanitation as a basic right to be delivered to the citizens of their countries which they govern in order to ensure a safe living environment and adequate public health.

It is inevitable that in South Africa, numerous people rely upon the government for the realisation of the right of access to adequate sanitation. This right is assured to "everyone" in Section 24 of the Constitution of South Africa (Act 108, 1996), which obligates the government to take sound legislative and other methods, within its obtainable resources, to accomplish the realisation of this right. In other words, this right ought to be progressively realised by the government, subject to its accessible resources. In comprehending this constitutionally conferred obligation, the government of South Africa has positioned numerous legislative and other measures designed to fulfil this right. This includes the decentralised government system which directs the provision of public services to the local governments through the Municipal Systems (Act 32 of 2000).

Existing literature shows that the public does indeed rely upon the governments for the provision of this service. Whilst the realisation of the right of access to sanitation which is adequate is the responsibility of the government, certain other agents have a role to play (i.e. private sector and the consumers). It is through the joint efforts between these parties that sanitation can be equitably delivered to the public and municipal solid waste properly managed. The fact that there has not been any literature in as far as the sanitation policy is concerned in the Umlazi Township area, particularly Umlazi (Q-section), this study proves to be of greatest importance in order to bridge the existing gap and influence change in the municipal solid waste management by the eThekweni Municipality.

The following chapter will give the reader more insight on the theoretical frameworks. The reader can expect to read about the significance of the theoretical framework in a research study and relevance of the two theories of choice selected by the researcher.

CHAPTER 3:

THEORETICAL FRAMEWORK:

3.1 Introduction

This exposition pursues to probe the challenges to the facility of the Municipal Solid Waste Management in Umlazi Township funnelled by the welfarist (John Hicks: 1981) and modernisation (Rostow: 1960) theoretical frameworks. With regard to these two theoretical frameworks, this thesis seeks to deliberate how the waste strategy is to some extent welfarist and how it is neoliberal in its prescriptions. Furthermore, it will debate the tests to waste management looking at global, national and provincial contexts of the ineffective collection of solid waste. In relation to the sanitation policy, this chapter makes reference to the above-mentioned theories (i.e. welfarist and modernisation theories), this chapter provides a guide to the path of this thesis and offers the foundation for the establishment of its credibility.

3.2 Theoretical framework and its significance in research

The theoretical framework explains the research path and grounds it resolutely in theoretical constructs. The aim behind the theoretical framework is to make certain that the research findings are more meaningful, satisfactory to the theoretical constructs in the field of research and further safeguards generalisability. The theoretical framework contributes to the stimulation of the research while safeguarding the extension of knowledge through the provision of both the direction and impetus to the research inquiry. Fittingly, it is no exaggeration for Imenda (2014) to say that the theoretical framework gives life to a research. According to Grant & Osanloo (2014), a theoretical framework is a 'blueprint' for a research often borrowed by a researcher to build their research inquiry. In reality, the theoretical framework would be likened to a map which guides a traveller to a destination. The researcher is guided by the theoretical framework so that they would not digress from the confines of the putative theories to scholarly and academically make their final contribution. Accordingly, Brondizio, Leemans, and Solecki (2014) are in accordance with that the theoretical framework is the detailed theory or theories about facets of human endeavour that can be valuable to the study of events. Grant & Osanloo (2014) assert that in a thesis, all facets of the research are expected to affix to the theoretical framework. Tactfully, the researcher must select the pertinent theory or theories that buttress the knowledge base of the phenomenon under inquiry. The researcher is expected to make a distinctive application of the certain theory or theories so as to appertain the theoretical constructs to their thesis.

Grant & Osanloo (2014) contend that the theoretical framework provides numerous benefits to a research work. It affords the structure in displaying how a researcher delineates their research work philosophically, epistemologically, methodology and analytically. Ravitch and Carl (2016) are in accord with that the theoretical framework succour researchers in positioning and contextualizing recognised theories into their theses or dissertations as a guide. This places their studies in a scholarly and academic approach. Furthermore, the theoretical framework functions as the centre for the research and it is related to the research problem under review or inquiry. According to Akintoye (2015), the theoretical framework makes findings of a research to be more meaningful and generalisable. Imenda (2014) clearly posits that a research lacking the theoretical framework is in devoid of accurate direction to the search of suitable literature and scholarly deliberations of the research findings. To some students in the research field, the theoretical framework makes provision of a shared global perception or lens from which to support their thinking with regard to the research problem and data (Grant & Osanloo, 2014). Simon and Goes (2011) aver that the theoretical framework deepens the crux of the study. In the field of inquiry, the appropriate selection as well as the presence of a theoretical framework assures scholars and readers that the study is not merely on the basis of researcher's personal instincts, albeit included, but rather firmly rooted in an established theory through credible studies (Akintoye, 2015).

3.3 Theories relevant to this thesis:

3.3.1 Welfarist theory and its relevance to the study

The welfarist theory was coined by John Hicks in 1981. The studied phenomenon is human-oriented since the experienced delay in garbage collection directly affects people and infringes on their welfare right to live in a safe and clean environment. Keller contends that welfarism necessitates “the view that morality is centrally concerned with the welfare or well-being of individuals” (Keller, 2009). By definition, the welfarist is a term denoting all theories that demand that we judge the state of a society in general, and just distributions in particular, by the welfare of the people concerned, and by their welfare only. Intrinsically it can be surmised that welfarism promotes for a well-off society far as the socio-economic aspects are concerned. The welfare of a society “is an aggregation of the individual welfare by means of an aggregator function which can be interpreted as a social welfare function”, (Kuklyns & Robeyns, 2004). Such a definition is unswerving with Keller's dispute that welfarism espouses the progression of person's welfare (Keller, 2009). The welfarist theory was deemed fitting in this research

endeavour because it outlines that people are to be rendered services that maximise their welfare. The welfarist theory holds the different spheres of government accountable and responsible for the provision of efficient and safe services to the people as promised. It allows scholars and emerging scholars in the field of public policy to analyse the extent to which services are rendered to people by virtue of being citizens as well as being electorates. In the South African context, the provision of refuse bags forms part of the Municipal Solid Waste Management policy as a basic service delivery and it underlines a welfarist nature of this public policy to some extent. This theoretical frame was used to confirm the responsibility that the State has over its people and to analyse challenges that are experienced by the settlers of Umlazi (Q-section) in relation to the delays in the collection of garbage as enshrined in the South African Constitution and clearly assured by the Municipal Solid Waste Management policy and the National Environmental Management Act (NEMA) 107 of 1998 in the Constitution of South Africa. This has been highlighted in the previous chapter being the literature review.

LoBiondo-Wood (2010) auxiliary reasoned that social purposes would amid other things, take a distributional system. This contention is line with the commencement of the Municipal Solid Waste Management policy as it takes a supply approach in its reality. This means that this policy involves a distributional form of a basic service delivery to the public without any exclusions. Service delivery assures the social welfare of the greater public, and this argument is line with the context of Public Policy in the sense that Public Policy is about the policies which involve the inception of policies of service delivery in the communities. The policy is welfarist since the government progressively distributes the refuse bags to the communities that fall under the designated requirements of low and middle-income areas at no cost. Umlazi (Q-section) falls under the category of both low and middle-income areas because the composition of the specific section comprises of both income groups (i.e. low and middle groups) whereby there are informal settlements (or with government-funded houses) for the low-income group and average houses for middle-income group. One can safely confirm that the majority that resides in this section falls below the poverty line and daily depends on the services that the local government is expected to provide for all indigent households.

The existing literature proved that the welfarist theory was also found relevant in analysing challenges related to service delivery in the context of South Africa since it has been used by other scholars to analyse behind the imbalanced distribution of service delivery in the United Kingdom (UK). The UK government instigated substantial public spending in line with the ideologies of Prime Minister Margaret Thatcher of 1979-1990 and the findings concluded that

service delivery is captured by enormous inequality which was of race and incomes. The South African State has become an enduring safety net for the underprivileged and most marginalised.

The public welfare in this regard goes further than merely having access to adequate sanitation and owning a house, but it incorporates the well-being of individuals through the integration of services for the disposal and collection of wastes. In the inference of this logic, it follows then that the Municipal Solid Waste Management policy is to some extent welfarist as these services are regarded as basic needs for the sustenance of humans in life. It is in this very regard that the provision of sanitation at Umlazi (Q-section) and the challenges that come with the delay in the collection of garbage bags shall be explored as this signals a great threat to the health of the residents and the sustainability of the living environment of the humans, as this goes against what is assured by NEMA as aforementioned.

It is through the welfarist theory that I, as the researcher, deem the provision of the timeous service delivery to represent the political will of the State and this is one of the good elements of good governance. The provision of services confirms that the State is committed to respect the democratic right which is to live in a safe and clean environment; and that the State is committed to an effective implementation of service delivery scoped policies. According to Simon & Goes (2011) well-being in the economic sense encompasses the capacity of the standard of living, poverty and inequality. In the economic welfare, the income generated by an individual comprise of a primary departure point since it is through the income of an individual that the level of poverty is then concluded. The policy of Municipal Solid Waste Management in the context of South Africa realises this component and as a result, the informal settlements or the low-income areas are provided the refuse bags by the local government as a basic service at no cost in comparison to the high-income areas where this provision forms part of the rates which residents must pay for services rendered by the municipality in the area. The welfarist theory suggests that nations seeking welfare consider economic advancement. However, whilst doing so, more waste is generated as people are not surviving on non-perishable goods which become garbage after use, hence the Municipal Solid Waste Management policy was coined to report to the environmental safety and avoid degradation. Greater degradation of the environment with increased health effects to the residents in the urban areas may result if there is a failure of the provision of a proper waste management system. Perspectives of this theory enabled me as a researcher to develop questions such as “How would you describe the cleanliness of your area?”, “Do you get any refuse bags from the municipality and if so, how often?”, “What role does this dirt that’s lying around have on

your health and in that of your family?”, among other questions. Such questions have allowed for the residents to narrate their lived experiences in relation to the topic at hand. Chapter 5 is where the narratives of the sampled participants will be delineated in relation to the studied challenge.

3.3.2 Modernisation theory and its relevance to the study

The modernisation theory was another relevant theory in this study. Scholars in Public Policy also make use of the provisions of this theory in order to analyse the extent to which development and revised public policies have impacted the people. Rostow is known to be the father of the modernisation theory which emerged in the 1960s. Rostow was an American economist and political theorist who affirmed that the developing countries can attain development by going through the processes which the developed countries had followed and this is inclusive of the policies countries enact. Rostow developed this theory in 1960 and he is one of the early scholars that contributed to the policies which are a panacea. The theory points toward that practices and conditions of management of the Municipal Solid Waste tend to differ between the developed and developing worlds. The implementation and realisation of such policies is often coupled by bottlenecks caused by the non-readiness of the State, corruption, the absence of the political will, lack of accountability, transparency and efficacy in the provision of services to the service consumers. Provisions of this theory allude that public health, in numerous developed countries is no longer a major driver of waste management; the focal point is now on the optimisation of the practices of the waste management with a comprehensive goal of the conservation of resources. Mmereki, Li & Loeto (2012) avert that Solid waste (SW) management is a challenge across the globe due to the increasing diversity of waste characteristics and lack of effective implementation of consistent waste policies accompanied by changing lifestyles, increased production processes and rapid urbanisation. They also mention that, most integrated development plans in their situational analysis don't not highlight that municipal wards with its electorates are sharing the environment with uncollected litter. They say, such service delivery tools, are usually outsourced to people with good words which make these documents appeal as documents which will realize policies and empower people. . They are written without the consultation of people. Integrated Development Planning becomes a political game as well as the compliance with the Municipal Systems Act and other policy provisions and this is how service delivery does not become people centred.

This theory illuminates that the different countries will experience different challenges to service delivery. The theory further illuminates that if challenges happen to be similar, underlying causations will differ in context. Hence, the study was executed in the areas mentioned under the first chapter and in other chapters of this write-up. The theory makes it clear that whilst the developing countries achieve their economic emancipation coupled by the exponential growth of population, recognisably differences do exist in the management of waste in the developed and developing countries. The theory expands to outline that modernisation comes with the decentralisation of power, in relation to the provision of service delivery and that it is not the panacea that people often regard it as. This theoretical view is supported by Kumar et al. (2009), who confirms that the decentralisation of power resulted to the poor management of the solid waste in the developing countries. There since has been a lack of accountability from the sectors entrusted with the responsibility of rendering services to the citizens, which includes the collection of garbage. Consequently, the lack of accountability has weakened the elements of good governance and contributed to experienced public riots. Public riots are a form of public participation in which the citizens ventilate their anger in relation to their compromised welfare, management incompetency from the side of service delivery and the questioning of resources in pursuit of expected services. The United Nations Habitat Report (2016) asserts that people have used litter to voice their anger towards the provision of service delivery. The report acknowledges that, there seem to be international trends that have been observed where litter has been used. The report puts it clear that there seems to be a gap in communicating issues that affect the collection of waste. Municipalities do not prioritise the communication between themselves and service beneficiaries.

Accordingly, the more the nation becomes modernised or developed as the modernisation theory suggests, the more waste will be generated. Basic common challenges encountered by the developing countries described by numerous researchers comprise of the disposal systems in place (i.e. the burning of garbage short of pollution control), poor coverage with regard to waste collection and uneven collection services and the lack of political obligation to service (sanitation) delivery.

When analysing the contribution of the modernisation theory, it can be deduced that the contemporary societies are more dynamic, the young are literate, and the disadvantaged obtain supplementary welfare. Smelser's analysis asserts that contemporary societies have a certain attribute of public structural disparity, which is to say a comprehensive designation of functions and governmental roles from national bodies. Smelser contends that while structural variation

has improved the functional capacity of contemporary institutions, it has further generated the issue of incorporation, and of managing the activities of the several new institutions. None of the used literature in this field of study had made reference to these two theories.

3.4 Conclusion

These theories contribute to the problem of this study in the sense that the issue of the Municipal Solid Waste Management is an issue of the public policy intended to meet the needs of the contemporary societies which Umlazi (Q-sections) forms part of. The issuing and collection of plastic bags by the municipalities or sanitation policy, is a basic service provision meant for the welfare of the citizens of a country. Developing countries like South Africa necessitate the development and implementation of public policies for the welfare of its citizens, although there exists several hindrances in the resource allocation and distribution. This chapter has explained in depth the link that exists between the two theories and the problem that prompted this study. The content of these two theoretical frameworks will further be used to analyse and interpret the gathered data.

CHAPTER 4:

RESEARCH METHODOLOGY

4.1 Introduction

This chapter discusses a detailed description of the methods used during the process of data collection. This study focuses on qualitative representation of the wastes generated in Umlazi (Q-section). Moreover, it examines practices of solid waste management that are in place in Umlazi (Q-section), particularly with regard to their environmental and institutional resilience. Evaluation of the recycling and recovering of waste will also be presented.

4.2 Research and its significance

Research is a systematic and structured effort to examine a specific problem that requires a solution. Research contributes to the common body of facts. Through research, human knowledge can be revised. It is a systematic and objective inquiry and recording of organised observations that may perhaps result in the development of generalisation, doctrines or theories resulting in likelihood and perhaps ultimate control of what happens in society. Research attempts to respond to or resolve social problems.

4.3 Research significance in Public Policy

Research is of the greatest importance in the scope of Public Policy as this is a discipline or sphere that involves the public and policies that affect the current and future generations. For this reason, research should be made in order to better develop and implement the fitting policies to be applied in the public contexts. Public Policy is the influence to action and it suggests a comprehensive structure to operationalise a principle, philosophy, mandate, vision or decision which is rendered into several programmes, projects and activities. A policy involves the extensive statement of prospective goals and actions, and articulates the methods of attaining them. It is an outline of governmental intervention that entails a variety of activities. Anderson (2010) delineates Public Policy as an intended course of action accompanied by an actor or set of actors in handling a matter of concern or an issue. On the other hand, Stewart, Hedge & Lester (2008) define Public Policy as a pattern or series of government undertakings or decisions that are aimed to remedy some problems in the social domain. What referred to as 'public policy' must be executed. The realisation of an approved public policy is determined by how effectively it is implemented. Even the very best policy lacks the necessary worth if it is not carried out successfully or appropriately. Likewise, the execution of a certain policy is

very much factor specific as it is dependent upon social, economic, political, organisational and attitudinal aspects that impact how ably or how deficiently a policy or programme has been instigated (Stewart, Hedge & Lester, 2008), and it further varies significantly over time, through polices, and from one state to the next. By way of illustration, I refer to the following case; the execution of any policy in an autonomous country is regularly scrutinised by different stakeholders though it is very easy for an autocratic nation to apply or execute any policy since there are less chances for the stakeholders to take part in the process.

4.4 Research design

Research design is depicted as a set of strategies and instructions to be followed in dealing with the research problem by way of address. Pierre (2012) refers to a research design as the set of processes that guide the investigator in the course of substantiating a particular hypothesis and discounting all other likely hypotheses or explanations. Yin (2009) asserts that the research design is a choice made by the research and this choice is on the basis of the type and features of the research problem that the research study is on. Qualitative research methodology was deemed a relevant design for this study. Qualitative research is a form of social science research that assembles and works with non-numerical data that pursues to deduce meaning from these data that aid us to appreciate social life through the study of directed people or places (Punch, 2013). It is the utterances and analyses of people's discernment of different events, and it takes the portrait of the people's insight in a natural setting (Gentles et al., 2015). It probes native familiarity and understanding of a specified programme, people's practices, meanings and interactions, and social developments and contextual issues that disregard a group of people. It is less controlled in depiction since it formulates and shapes new theories. Watkins (2015); Levitt et al. (2017) contend that qualitative research method is inductive in its sense, it allows the researcher to collect descriptive also known as thick data. It is through a qualitative research inquiry that the researcher usually discovers meanings and understandings in a particular situation. Moreover, Gopaldas (2016) asserts that qualitative research uses a series of data collection and techniques for analysis that include purposive sampling and interviews which are semi-structured and open-ended.

The employment of qualitative research design was also motivated by the problem statement that prompted the study in question, research questions that were influenced by theoretical frameworks cited in Chapter Three of this thesis. Viswambharan and Priya (2016) assert that the selection of methodology is influenced by the questions that are raised. Creswell (2009)

provides that the general understanding of the qualitative research method is that, it is not statistical in nature and it represents people's voices also known as narratives. Qualitative research can refer to research concerned with the lives of persons, experiences which are lived, including human behaviours, sentiments, and feelings as well as with the organisational functioning, social engagements, cultural phenomena, and relations between nations. It is defined as an operative model that transpires in an ordinary locale and qualifies the researcher to cultivate a level of detail from high participation in the tangible experiences. This is a method or technique which is characterised by an in depth and extensive comprehending of the issues by means of their textual interpretation. I as the researcher utilised the qualitative research approach as the study had a focus on the experiences of respondents. This research approach was favoured for the reason that the study was focusing on experiences of the respondents about the ineffective garbage removal as well as their feelings with regard to poor solid waste management or the lack thereof that they received from the eThekweni Municipality. Therefore, involved consideration of feelings and their narratives on the felt experience with regard to service delivery was worth being verbatim recorded. The approach and methodology utilised to meet the study objectives listed in Chapter One.

4.5 Ethical considerations

Before the researcher can proceed to the study area for purposes of collecting data, the researcher requires ethical clearance from the Research Office from which the researcher is a registered student. Ethical frameworks need to be dealt with in detail in order for approval to go to the field can be granted, and these include but are not limited to whether or not the project will include minor persons (children), people who are HIV positive, people who are mentally impaired, people who have experienced traumatic life circumstances and so forth. This is done with the intent to assure confidentiality and safety of the respondents. In order to assure the validity of voluntary participation in the study, participants first signed a consent form prior to responding to the questions during the process of data collection. This form further warranted the participants of the confidentiality and anonymity in the study and protection from harm. The Research Office of the University of KwaZulu-Natal granted ethical clearance on the 15th of October 2018 after having considered such ethics frameworks as well as approval (gatekeepers) for the researcher to conduct fieldwork in the study area by the Office of the Councillor of Ward 87 under which the study area of Umlazi (Q-section) is. In the course of the fieldwork, most of the participants did not comprehend the basis of the research and they were disinclined to partake. The respondents feared that they would be thought of as being

liable for the illegal disposal of solid waste. It was then the responsibility of the researcher to clarify the intentions of carrying out the study and that they will remain anonymous.

The researcher conducted discussions with participants of the household located at Umlazi (Q-section). The interviews were administered in order to comprehend how the residents perceive the problem of poor management of solid waste and establish how they, as members of the community rate environmental problems in comparison to other social problems encountered in the community.

4.6 Data collection

Data collection is a crucial step in the research. The researcher get to meet with the population targeted for the study. The sampled population become authors of information which the hope that their narratives will contribute change in their lives. Data collection was conducted at Umlazi (Q-section) which is a municipal demarcation. The data that will be presented and analysed in the data analysis chapter will delineate experiences of the study population and findings will not be generalised to other geographical demarcations. Data collection took two days.

Having mentioned that this study was immersed in the qualitative research, the study was expository in nature in that I as the researcher, intended to deliberate on the experiences of the residents of Umlazi (Q-section) relating to the delays in refuse collection and the effects this has on their health. Descriptive study is a social research with the primary goal of relating (rather than explaining) a particular experience as has been the case with this thesis through the means of residents with first-hand experience and knowledge relating to the challenges of solid waste management within the area of Umlazi (Q-section) and the health effects this has on the residents. Descriptive research provides a depiction of the specific details of a circumstance, relationship or social setting. It is the perception of the researcher that the latter delineation was more pertinent to the topic under which the study is on as it focused on how the impact of challenges of garbage removal or the lack thereof influenced the lives or health of those that reside in the study area i.e. Umlazi (Q-section), and the environment.

When making use of a descriptive design, the main determination is to describe circumstances and events. The study was carried out in an area that falls under the eThekweni Municipality in the province of KwaZulu-Natal. The respondents of the study were residents of Umlazi (Q-section), which are already affected by the poor solid waste management or already practice dumping away garbage onto the street and/or burning the solid waste on either the backyard or

street. I as the researcher made use of an unstructured interview schedule as a method upon the process of data collection. Flick (2014) stresses that unstructured interviews are particularly suitable when the subject is controversial and personal. In this regard, solid waste management is both controversial and personal in that, effects vary from one person to the other if not properly managed. The respondents were interviewed in their homes within the study area (i.e. Umlazi (Q-section)). This was important to do due to the general idea that respondents would feel more comfortable responding to questions in a setting they are more familiar with and would not need to travel. The theoretical framework used helped identify a plan for investigation and findings interpretation. The theoretical framework I used in this research guided me in selecting the appropriate qualitative research methods such that the theories used could be efficiently tested through the employment of the selected methods.

In the qualitative research, unstructured interviews are the most common technique of data collection. Yin (2014) suggests that interviewing within the qualitative research is a form of framework in which the practices and standards are not solely recorded, but further achieved, tested and also reinforced. Charmaz (2014) submits that no research interview lacks structure and as such, numerous interviews in the qualitative research method are semi-structured or in depth. Corbin & Strauss (2015) suggest that unstructured interviews are those that generally allow for the respondents to express themselves in their own ways and at their own pace. This is done with minimal interjection on the responses by the interviewer. The qualitative method will allow the researcher to engage with the residents in the area of study and get to ask them questions. The researcher will employ an unstructured interview schedule. The unstructured interviews will be open-ended such that the interviewees will be provided with the opportunity to share their experiences and share the knowledge they have in this regard. This is chiefly to allow a flow of communication and provide the respondents an opportunity to share their experiences and feelings towards the poor management of waste in their area. Interviews were administered to the sample of ten (10) respondents.

The tool used was the interview schedule. “An interview schedule is a set of questions which is used as a guide towards a research interview for purposes of data collection”, (Giorgi, 2009). Unstructured interviews were for purposes of being in control of the process of asking questions to the participants and capacitate me as the researcher with the platform to probe clarity and thereafter record detailed narratives for purposes of interpretation and analysis. With reference to the language and culture of the respondents, interviews were either in IsiZulu or English depending on the particular respondent’s choice. Whereas the literacy level of the

participant is low, it is required and necessary that the researcher facilitates the process of understanding and answering the questions.

4.7 Sampling and recruitment strategy employed

According to Corbin & Strauss (2015), a sample is the portion of the populace considered for the actual incorporation in the study. Sampling is the method or system of selecting a limited fraction from a group for the purposes of estimating or predicting a fact concerning the target group. This is to say, a sample can be regarded as a subset of dimensions drawn from the populace in question (Miles, Huberman, & Saldaña, 2014). Gentles et al. (2015) asserts that sampling refers to the selection of particular data sources from which data are assembled to address the research objectives. The purpose behind studying a sample in lieu of the entire populace is that of obtaining an in-depth comprehension of some aspects of the population or to solicit situated knowledge regarding the phenomenon or subject. The general idea of the benefits of sampling is that it saves time, cost-effective and human resources. The main drawback lies with when the researcher does not discover the facts regarding the character of the population. Silverman (2010) asserts that if one can observe the entire populace, the process will be monotonous and time consuming. Yin (2009) clearly asserts that methods of sampling can be categorised into those that produce probability samples and those that generate nonprobability samples. Presenting a closely related account is Miles et al. (2014) who point out that sampling means deserting certainty in favour of probability. And so, the researcher describes sampling method as a system that the researcher utilises to select a sample.

I as the researcher, opted for the purposive sampling method. The contributing influence for the choice of this sampling method had to do with my knowledge as the researcher of the study area and its inhabitants. “In non-probability sampling, there is no way of forecasting, estimating or guaranteeing that each element in the population will be represented in the sample” (Patton, 2015). That being the case, the purposive sampling makes no pretence of being representative of a populace. Hence, the findings will not be generalised as being those of residents within the other sections in Umlazi. Yin (2011) further maintains that purposive sampling is “the selection of participants or sources of data to be used in a study, based on their anticipated richness and relevance of information in relation to the study’s research questions”. Purposive sampling makes use of those respondents who have the necessary knowledge and understanding of the subject and who will share their experiences. In this case, the residents of Umlazi (Q-section) were the key respondents to this study. Mohan (2012) asserts that non-probability sampling

methods are utilised in qualitative studies and the reason for this is that non-probability sampling calls for the researcher's subjective judgements while making reference both to the theory in the sense of academic literature as well as practice which is the researcher's experience. Van Manen (2014) indicates that "thus to study the particular is to study the general". These writers consider that any case will have qualities of the collective.

According to Freeman (2000), every so often, researchers make use of the 'face-to-face interactions' as a primary method in their recruitment strategy by recruiting in the neighbourhoods through knocking on doors in the hope of getting a participant. Whilst I as the researcher may have had prior knowledge of the residents from Umlazi (Q-section) as aforementioned, in my recruitment strategy, I had to knock on the doors of those I purposefully sought to sample.

4.7 Data analysis

Data analysis is a collaborative practice, where data are thoroughly examined and analysed in order to afford an illuminating narrative of phenomena; for instance, the experience of carers helping ailing patients with a specific disease. Or, as Noble, Kelly & Hudson (2013) add, a "student nurses' experiences following assignment referral". According to Robshaw & Smith (2004), data analysis is a process which is iterative or periodic, necessary to the imagination of the analysis, expansion of ideas, illuminating meaning and the adaptation of theories as new intuitions 'emerge' or are established in the data.

4.8 Credibility (reliability and validity)

4.8.1 Reliability

Research without rigor becomes fiction and defeats its worthiness. The rigor can be warranted merely by the consideration of validity and credibility in all kinds of research methods. The term 'credibility' is a concept utilised for testing or assessing research, the notion is most often utilised in all existing kinds of research. According to Stenbacka (2001), in the qualitative paradigm, the idea of testing is regarded as a way of facts elicitation. Consequently, the quality of a qualitative study is the most imperative test. In essence, reliability is perceived as the purpose of generating an understanding when it comes to qualitative research since meanings and ideas are provided for by the participants sharing their experiences. Stenbacka (2001) asserts that, "the concept of reliability is even misleading in qualitative research, if a qualitative study is discussed with reliability as a criterion; the consequence is rather that the study is no

good”. Stenbacka (2001) further argues that since the reliability matter concerns itself with measurements, then it has no significance in qualitative research. This would be since qualitative research deals with ideas in texts and not amounts or numbers. Patton (2001) then maintains that with regards to the ability and the skill of the researcher, reliability is a result of the validity in a qualitative study.

4.8.2 Validity

Davies & Dodd (2002) indicate that qualitative researchers are of the opinion that the concept ‘validity’ is not pertinent to qualitative research. Nevertheless, they have at the same time realised the necessity for some kind of eligibility check for their research. For instance, Creswell & Miller (2000) submit that the validity is influenced by the perception of validity by the researcher in the study and their selection of paradigm assumption. Consequently, numerous researchers have established their own ideas of validity and have every so often generated or embraced what they regard as more appropriate phrases, such as, trustworthiness, quality and rigor (Stenbacka, 2001).

4.9 Positionality in the study

Sultana (2007) states that, “it is critical to pay attention to positionality, reflexivity, the production of knowledge and the power relations that are inherent in research processes in order to undertake ethical research”. The word ‘positionality’ both defines an individual’s basic comprehension of a principle and the position they have preferred to embrace in relation to a particular research task (Foote and Bartell, 2011) & (Baden and Major, 2013). According to Sikes (2004), the worldview of the individual or ‘where the researcher is coming from’ relates to ontological assumptions which refers to the nature of social reality, epistemological assumptions which refers to the nature of knowledge or facts, and the assumptions of the researcher about human nature and agency. Positionality owns to that researchers are themselves, part of the social realm that they are studying or examining and as Cohen, Manion & Morrison (2011) add, that this realm is “...an already interpreted world by the actors, undermining the notion of objective reality”. It suggests that the social historical location of a researcher influences their orientations i.e. that the researcher is not separate from the social processes they study. It is crucial for the researcher to state their position in the research conducted for the reader to know where the researcher stands before reading the data presented. And so, the following subsections form basis for my positionality statement.

4.9.1 My experience

As a student with about a five year experience devoted to equipping myself to embrace discipline, influence change in policy development, and excel academically, I realise that what is imperative to stakeholders of policy in South Africa is to safeguard the effectiveness and sustainability of policy. Hargreaves (2009) accentuates that a practical theory-in-action of policy change must lie on the elementary principles of sustainability and effectiveness. Hargreaves and Fink (2006) posit that to sustainability involves maintaining or enduring the weight of policies. My research focus narrates the challenges pertaining to the collection of solid waste, and since unease and urge propel the researcher (Machi & McEvoy, 2009), I conducted this study to influence policy effectiveness and for my Master's degree award.

4.9.2 My biases

The direct beneficiaries of this solid waste management policy which includes the collection and disposal of municipal solid waste or refuse by the eThekweni Municipality from Umlazi (Q-section) are the residents themselves, of whom my family are one. Beneficiaries reacted positively to the establishment of interventions, understandably so, such as the consultation of communities in policy development (as will be further detailed under the Data Analysis chapter) to aid deal with the enormous contests the effective implementation and sustainability of the policy poses. Conversely, the paramount concern of most residents, of whom I am one, is that there are helpless children that play with the refuse and this poses threats to their health. Since perceptions are settled by one's position within ideas and beliefs (Briscoe, 2005), it is my wish thus that the local government unceasingly keeps engrossed toward the realisation of the objectives of the solid waste management policy.

The difficulties bedeviling the sanitation policy are vast. One major impediment to the policy is the delay in the collection of refuse bags (Matibane, 2010). The delay in the collection of refuse bags is clear indication that the municipalities have insufficient funds, and are deficient of the effective planning and the necessary leadership that can propel policy implementation to fully achieve stipulated objectives of the solid waste management policy.

Embarking on this study, I understand that my biases can inspire the jumping into irrelevant conclusions, since I am a resident of the area myself and my family experiences the burden of uncollected refuse frequently. The challenge I encounter is the ability to view, determine, and carry myself as a student and a researcher of academic work and be heedful of the fact that a partisan researcher can merely yield partial findings (Machi & McEvoy, 2009) so that I may

turn out to be a great scholar-practitioner I can be, and also realise the outcomes of this research study to benefit residents in municipal areas around the globe.

4.10 Research limitations

The selection of participants or samples bore difficulty as it depended on the availability and willingness of the participants I aimed at for sampling. I discovered that research requires traveling and if the researcher lacks the necessary funding, and other relevant costs of research can be strenuous and ultimately limit the productivity and quality of research as this was the case with my data collection. Notwithstanding the willingness to cooperate, some respondents were incapable of providing truthful information to the posed questions. I noted that the respondents attempted to give answers that they thought would please me as the researcher. As such, I continuously reminded the respondents that they were free to respond the best way they can so that their own (varying) views and experiences can be gathered and presented without any prejudice.

4.11 Conclusion

It is indispensable that the outcomes of the study are well grounded, cogent and effective. As a result, the researcher had to apply various methods (like the involvement of the authorities through gatekeeping and the participation of first-hand experiencers of uncollected refuse) for the completion of this particular research. The data provided by the respondents was handled with utmost confidentiality. The inclined participants had the chance to comprehend the significance of the research and how the subject influences their daily lives. The procedure of data collection is about sharing cognition in lieu of imposing ideas onto the public.

The aim of a researcher was not to undermine the respondents, but to contribute to the existing knowledge. During the course of data collection, the researcher was conscious of the limitation and partialities that may arise owing to the inadequacy of resource. The researcher respects and appreciates the cultural issues of the public of Umlazi (Q-section). I as the researcher was able to discuss issues regarding the health of the residents in relation to the practices of solid waste management within the area of Umlazi (Q-section). Respondents facilitated in the pursuit of clarity and addressing the challenges with the delay in refuse removal. All these issues and concerns form part of the following chapter which is where I as the researcher made analysis and interpretation of the results of the data collected from the study area of Umlazi (Q-section). These results are discussed in detail in the succeeding chapter through a thematic analysis.

CHAPTER 5:

PRESENTATION AND ANALYSIS OF RESEARCH DATA:

5.1 Introduction

This study explored how the Umlazi (Q-section) residents experience the challenges that come with the delay in refuse collection by the eThekweni Municipality. A void in erstwhile research and literature explaining this phenomenon specifically in the study area of Umlazi (Q-section) inspired my interest in investigating the residents' perspectives regarding the effectiveness of the policy of Municipal Solid Waste Management. As Kubanza (2010) suggests that numerous cities and wards under the municipalities are extremely filthy and it remains indubitable that people are living at a close vicinity with refuse and that they respire polluted air, the purpose of this study was to probe the reasons behind not collecting the solid waste, to unearth the negative implications of ineffective refuse collection on the health of the residents of Umlazi (Q-section) as well as to establish the coping mechanisms employed by the community members in order to cope with these negative implications. A qualitative structure was utilised to design my study. A thematic approach which is common in a qualitative research guided data collection and data analysis. The results are a culmination of the voices of the residents and share a profound outlook into their lived experiences within the area.

5.2 Method of data analysis and presentation

As mentioned in Chapter Four of this write up, thematic analysis was utilised to conclude on the notions of the residents as revealed throughout the data-gathering procedure. In conjunction with this data collection, participants verbalised their personal experience in relation to the research problem that prompted this particular study. The aim was to elucidate this qualitative data to ascertain recurrent and noteworthy themes (Noble and Smith 2014) and with the objective of generating vignettes, consenting quotations to be used to illuminate key points from the discussions with the respondents. During the fieldwork phase, I transcribed the interviews into ten (10) interview schedules. My intention was to "identify the most complete and logically compelling explanation of the observed events given the specific conditions of the contextual environment", (Wynn & Williams, 2012). The use of thematic analysis was favoured because it allows those that are affected or have been heard talking about their experiences. I realised that their narratives were key to tell the situation as it is and to give them the opportunity to make recommendations that could be tabled before service delivers for the change of the sanitation situation that live under.

This chapter makes provision of an analysis of the data collected from the residents from Umlazi (Q-section). The aim of this study was to assess the challenges around the garbage removal in Umlazi (Q-section). As argued in Chapter Two, the South African National Sanitation Policy (2016), the South African Constitution (Act 108 of 1996), Nkosi (2014), Guerrero et al. (2013), Ogola et al., (2012) and Vergara (2012) all argued in Chapter Two that South Africa has a history of service delivery which dates from the stretches of the apartheid era till to date. Nkosi (2014) further posits that service delivery relating to the sanitation-related issues does not appear to be clearing and it is one of the welfare concerns that the welfarist theory is advocating against as explained in chapter three of this thesis. The discussion is on the basis of the responses of the ten (10) participants who reside in the study area and completed the interview schedule. Data will be presented through the use of themes that emerged during the interviews with the respondents in light of the aim, objectives and key research questions of this study.

The results obtained in this section sought to answer the key research questions of the core challenges that affect the collection of refuse bags, the negative implications on the health of the residents, to establish the coping mechanisms employed by the community members in dealing with solid waste and if there are any strategies put in place by the eThekweni Municipality in addressing the identified challenges to the provision of this basic service. The questions to the informants were open-ended and this was informed by the experience and knowledge that the residents have with regard to the delivery of sanitation, specifically the solid waste management within the area of Umlazi (Q-section).

5.3 Demographics of the respondents

5.3.1 The description of the respondents and their families

Salkind (2010) suggests the importance of participant demographics since, “demographic information provides data regarding research participants and is necessary for the determination of whether the individuals in a particular study are a representative sample of the target population for generalization purposes”. The sample of five (5) females and five (5) males ranging in age from thirty (30) to sixty (60) as alluded under the methodology chapter, proved to be a blend of both demographics and resident experience. All ten (10) participants were identified as Black African. Most of the households consist of over six (6) members and have children. The average size of households at Umlazi (Q-section) is six members per household. The educational level is not high as informants expressed that they do not hold any

post-High School education. Their socio-economic analysis confirmed that they represent indigent families who by virtue of their analysis remain direct beneficiaries of government services. This finding confirms the argument that was raised in chapter one and two, where I argued that the decentralisation of services was to realise that most families rely on the provision of government services hence the government should be accountable in ensuring that all people are effectively and efficiently provided with uncompromised services.

5.3.2 The socio-economic index of the respondents

The research findings also revealed that most of the family circles within Umlazi (Q-section) consist of the working class (although mostly cheap labour) which is underemployed and the mainly households without jobs and receive social grants from the government. Of the working households, most either work as builders or labourers from the housing project that is taking place within the township or as domestic workers. The young mostly work in the shopping stores. It is likely that these participants cannot afford to pay for the delivery of basic services from their salaries which can be assured efficiency from these types of jobs as they live under the R3500 income margin per month. Consequently, the participants are indigent and ultimately rely on the government for the provision of sanitation at no cost. As per the theoretical frameworks of this thesis, the welfarist theory suggests that the welfare of the constituents of a State, the citizens is pivotal and in a modern and autonomous country like South Africa, the welfare of people is the responsibility of the government. That is why we have other like public policies like the Reconstruction and Development Programme (RDP) which includes the construction of houses for the poor people as they obviously cannot take care of such basic services themselves with their socioeconomic statuses. Vergara (2012) asserts that the provision of uncompromised service delivery appears to be a policy agenda item. Hence, every country has its policy related to sanitation and in the United States of America, this policy called 'Clean Air Act and Clean Water Act' is the one that controls the amount of pollutants from entering the environment to avoid the degradation of the environment and detriment of the health of people. In South Africa we also have the ones which were delineated in chapter two and three of the thesis which in my own analysis have not yield intended results. They have not been a panacea that South African electorates and children were promised during the dawn of democracy. Service delivery particularly the provision of uncompromised sanitation in the scope of waste collection appears to be an un-unveiled dream. It is an agenda item which its realisation is still in its infancy.

5.3.3 The employment stratification of the respondents

From the unstructured interviews, it was understood that there exists more males that are employed than the females. The females mostly work as cleaners. It further emerged that most households are headed by males. This depiction reveals poor progress on the role of government in as far as addressing the common issue of gender inequality in the developing countries. Furthermore, the employment issue in Umlazi (Q-section) has conditioned that the residents not be in a position to pay for the municipality tariffs which in numerous places where the residents are able to, normally lead to the services being rendered efficiently and speedily.

5.4 Emerging themes

Meaningfully engaging with the data was a calculated effort. As submitted by Richards (2009), endeavouring for quality in data records transpired simultaneously during the course of the collection and that of analysis concentrating on accuracy, exertion of context, depth of narrative, practicality, and an instinctive connection to the data. Saldana (2013) offers an in-depth account of thematic processes utilised in qualitative research. This manual aided as a forecasting tool as I mapped out my design for analysis. Ultimately, analysis steered to the emergence of four core themes recounting the phenomenon of interest in response to the research questions and objectives alluded in the first chapter. The four themes that developed through the data relating to how the Umlazi (Q-section) residents experience and comprehend the sanitation policy with the ineffective collection of refuse in the area where **the distribution of refuse bags, the local municipality's refuse collection schedule, the hazardous health effects on the community, and the coping mechanisms.**

The first theme **the distribution of refuse bags** encompasses the significance residents place on service delivery by the local municipality. The crux of this theme transmits how residents experience the sanitation policy. Value is placed on observing the distribution of refuse bags in the informal settings throughout Umlazi (Q-section).

The second theme **the local municipality's refuse collection schedule** demonstrates what residents believe to be a pivotal role of their local municipality and their discernment of key leadership accountabilities. The essence of this theme pronounces how residents realise the collection of garbage to be and how they reckon it should be.

The third theme **hazardous health effects on the community** describes the health impacts experienced by the community members relating to the uncollected garbage. The essence of this theme is established in the health influence residents experience from the phenomenon.

The last theme, **coping mechanisms** encompasses the employed means of handling or dealing with the experienced service delivery failure.

5.4.1 The distribution of refuse bags

Do you get any refuse bags from the municipality and if so, how often?

Most researchers in developed and developing have argued that the state holds the responsibility to provide refuse bags through their local municipality offices (Ramos et al.: 2012). The United Nations Habitat for A Better Urban Future (2010) provides that the collection of solid waste accounts for most of the expenditure on the management of solid waste, and solid waste management is frequently the main item of spending in municipal budgets. The shortage of funds and the difficult procedures involved in accessing funds are often cited as the reasons why important steps cannot be taken (even, as often is the case, when a relatively small expenditure on maintenance can save the larger costs of keeping vehicle idle, awaiting repair. The South African National Sanitation Policy (2016) confirms that the State is responsible through its local municipalities to collect and redistribute refuse bags, if not other methods of containing litter that people can benefit without a cost implication on them. This is in agreement with the welfarist theory which necessitates the welfare of the citizens of a country and in a developing country like South Africa, as per the modernisation theory, poor people rely on the State for the provision of basic services. This is one way of confirming that the government is aware that people are generators of litter, hence the government takes the responsibility to collect the generated litter from its people in order to realise provisions of the Bill of Rights in the South African Constitution (Act 108 of 1996).

Amongst the ten (10) interviewed respondents, this study report that three (3) participants confirmed that their households receive thirty six (36) refuse bags from the eThekwin Municipality every once in three months. Other three participants further indicated that this provision of waste bags is charged under the monthly rates that the residents need to pay to the municipality. One participant said, *“The refuse bags that we receive are not enough since they are like twenty in three months and as a result, we end up having to buy additional refuse bags as we are a big family and we therefore have a high generation of waste in a month”*.

I further probe to ask what happens if a particular household does not pay municipal rates for issues related to unemployment. They narrated that they have been told by the municipality that they will not get good service delivery if they do not pay for municipality because that is how the municipality is able to generate money which is further used in other service delivery sectors.

The remaining informants all indicated that in their part of Umlazi (Q-section) which is the informal settlements, they are only provided with one refuse bag in a week which would make it to be four refuse bags in a month. The respondents stressed out the insufficiency of these refuse bags since they generally are big families that consume more products in total and subsequently require more bags for the disposal of the garbage from their households. This gives an indication that there are double standards in the provision of service delivery. As there are those who get thirty six (36) refuse bags in a month, because they pay their rates and there those who only get one (1) refuse bag once a week. One can also get a sense that the service provider has somehow struggled to calculate the amount of generated waste by each household in the area. This service delivery strata is a bottleneck on its own. It distorts consistency and weakens the content of public policies as one can argue that service delivery is for ones with money. The United Nations Habitat for A Better Urban Future (2010) encourages countries to take interest in analysing the amount of generated waste even though such studies take time and they need a budget as they can actually in facilitate in establishing how solid waste is generated as well as the density of the waste. According to this report, municipalities can also get to understand the types of waste that people generate and be able to provide adequate containers and raise advocacy that will benefit people in taking responsibility for their generated waste.

5.4.2 The local municipality's refuse collection schedule

How often does the municipality collect the garbage?

As indicated under the first two chapters, the Constitution of the Republic of South Africa (Act 108 of 1996) as well as the South African National Sanitation Policy (2016) posit that the provision of the collection of waste remains a fundamental right that South Africans have been promised by the democratic government. According to the welfarist theory, basic services like sanitation are a welfare aspect. This affects the health of the people and verily, it remains a welfare issue as per the welfarist theory. It is a provision that also should amend the divisions that were experienced in the past as other ethnic groups were kept in the dirt while others lived

in clean environments. Mavropoulos (2011), Hoornweg (2012) and Ogola (2012) have in their independent research concluded that the collection of waste or garbage by the municipality is often affected by schedules that are often compromised by factors such as broken refuse collection vehicles. The United Nations Habitat for A Better Urban Future (2016: 32) posits that the refuse collection frequency (in terms of the number of times in a week or a month that waste is collected) is a fundamental segment of service delivery. Ramos et al. (2012) stresses that municipalities have not been successful in responding to this sanitation service delivery expectation as most of them are typically given restricted financial resources to handle such issues. The responses from the participants are in congruent with the failure of the municipality to deal with solid waste in the study area as it was indicated that the collection of refuse bags is not consistent. Four (4) respondents mentioned that the collection of the waste is generally once a week, although not always collected every week as should be the case. The respondents indicated that the collection of solid waste in the area lacks consistency as in some instances, it is not even on the scheduled timeframe. One informant further said, *“The solid waste is collected once every Tuesday in a week in the mornings. However, it is sometimes collected in the evenings of the following day which is Wednesdays, and sometimes when there are strikes, it is not even collected”*.

The remaining informants said it is meant to be collected every Tuesday of the week, but that no longer happens as the waste does not get collected in the area. One informant said, *“In the past, the collection of solid waste used to be done every Tuesdays but not anymore since the collection truck cannot come in now and it makes it difficult for the workers to walk in and collect waste without the use of the truck as we are a huge community which generates more waste”*.

Are you satisfied with this garbage collection as a community member and parent?

In the literature review, Weiner & Matthews (2010) affirmed that the collection of waste from the households is usually every once in a day in the Asian cities. Such a frequent schedule certainly acknowledges the welfare of the citizens of a country. Sanitation is a basic service according to the welfarist theory delineated in the theoretical frameworks chapter, and solid waste ought to be frequently collected. Nevertheless, informants in this Umlazi (Q-section) mainly indicated that they are not satisfied with the collection of solid waste in the area as it is not done at all. One informant said in her response, *“No I am not satisfied with the collection of solid waste in the area since there is just no collection as should be the case”*. Another

informant responded by saying, *“Not at all. As I had explained earlier that the collection of waste is no longer done in this area. As a result, the waste remains in the streets or gets burnt in the backyards”*. Given the fact that most the residents are both unemployed and dependent on the government or survive by means of cheap labour, they expect the local government to play its role in an effective manner by providing this basic service to them as they do not afford any alternative.

I asked how long the waste had been on the streets. Most respondents indicated that the solid wastes that the researcher saw lying on the streets had been on the streets for two weeks at least. One informant then further said, *“The contributing problem to the solid wastes on the streets is that some households do not comply with the rule. Some households take out the solid wastes for collection days before the collection day comes and then the waste remains by the streets for longer than should be and this makes the area look bad too whereas we know that the collection is supposed to be on Tuesdays and so we ought to take out the wastes in the mornings of the collection day”*.

Has the municipality explained why the garbage has not been collected for all this time?

While some respondents indicated that they just do not attend municipal meetings in the area, some indicated that the municipality has not explained the reasons behind the ineffective collection of solid wastes in the area. Though the case, informants relied on their understanding of the situation and some contended, *“The problem is that there is a group of people that opposes the ruling local government and/or the contracted collectors of solid waste within the area. This group of people is popularly known as ‘Amadelangokubona’ and their sole objective is to oppose the ruling administration in the area so that it will seem as though the government is not providing services. Another thing is that the road is too damaged for the cars to come through and I would assume the drivers don’t feel motivated to drive through here”*.

5.4.3 Hazardous health effects on the community and families

Has there been any instances that children or any community members’ health has been affected by this?

In chapter one and two of this thesis the United Nations Habitat for A Better Urban Future (2010) contributed that both the developed and developing countries are experiencing health problems as a result of uncollected garbage. It is also an argument that I presented as a problem statement that prompted this study. Furthermore, in a modern society like that of Umlazi (Q-

section), an urban area, both the modernisation and welfarist theories assure the welfare and well-being of the residents. Welfare is all about the basic needs of the people which services like sanitation form part, especially since they affect another basic need of the people (i.e. health). The respondents indicated that there are cases of waste-related diseases in the area, which could be avoided. One informant said, *“In my family, we often get stomach pain and respiratory problems which is related to the breathing of polluted air that cokes as a result of burning the solid wastes since we normally resort to this practice”*. Respondents also indicated that there are too many mosquitoes and other flies and this is a problem for them.

As indigent as they are, such compromised health requires them to have money to consult with medical practitioners as they are not reliable in terms of diagnosing and treating the communicated illness. I probed to ask why they are not making use of the local clinics. They responded by mentioning that government clinics do not always have enough medicine to respond to their illnesses. They do not even have doctors who can diagnose the diseases thoroughly and prescribe relevant medication. Such are available in hospitals where they need to pay for services. This narration gives an indication that people are disappointed in the nature of service delivery that they receive from the government. This compromises the content of the Constitution of the Republic of South Africa (Act 108 of 1996) as a supreme law which as having been deliberated on in the first chapter, affirms the right for the citizens to adequate sanitation.

What are some of the most prevalent illnesses that you and your family have?

Of the responses gathered, it was mostly the case that respondents indicate respiratory issues, stomach bugs. One informant contended, *“There are too many mosquitoes here which is caused by the fact that it is mostly hot and flies feed on the solid waste outside. Subsequently, this causes diarrhoea since these flies come into contact with the food that we consume”*. These instances are caused by the dirt that is in the area.

Is the municipality aware of the health implications that this garbage has on the community members?

While some respondents indicated that the municipality should be aware of the health implication solid waste that remains uncollected has on them since members of the municipality are educated, some stated that they do not think the municipality is aware of the impacts this has on their health otherwise there would have been a change on the situation

already. Some respondents asserted that the issue of solid waste had not been raised in their meetings with the local officials.

5.4.4 Coping mechanisms

Has the community members ever tried to solve this problem on their own? If yes, what was the outcome of that initiative or coping mechanism?

All respondents indicated that the community members have sought solutions of their own to the uncollected solid waste through the practices of burning the solid wastes on the road when it has remained uncollected for long or in their gardens or backyards. When asked about the outcome of this practice, some informants said, *“We end up getting sick since we have plantations in the gardens that we use as food, and get respiratory problems as the air gets polluted through the burning of solid wastes”*.

The subsequent discussion is intended to clarify and support the findings of this study. Direct quotes from the interview schedule on the above themes were offered to best represent the lived experience by the residents and accentuate, through the residents’ own voices, how they experience and comprehend the phenomenon.

5.5 Discussion

According to Rouse (2005), the analysis of the human behaviour as well as numerous other traits of a group of people in terms of statistics refers to ‘demographics’. Such a socioeconomic characterisation comprises of age, sex, education, income, occupation, dependants, etc.

From the unstructured interviews held with the respondents, it has been noted that of the ten (10) respondents, the majority of the residents of Umlazi (Q-section) are either underemployed or dependant on the government. Those who do have employment, are not working in the favourable jobs. The others are just basically sitting at home the entire day since they are unemployed. And this makes it even more possible for more solid waste to be generated and requires the disposal thereof. A great number of residents of Umlazi (Q-section) first moved to the area as a way of being in the close proximity to the opportunities of employment. On the other hand, some other families invaded Umlazi (Q-section) and settled in the area because of the violence or political instability in their locations or perhaps, of family disputes. Not so far from Umlazi (Q-section) is the South Durban Basin, which is an industrial hub of Durban. This well accommodates most of the workforce. The South Durban Basin provides a source of employment for the future skilled population of Umlazi Township. Conversely, there exists

numerous unskilled and unemployed people in Umlazi (Q-section) and it is the unemployed people that fail the necessary affordability for the basic services as service delivery is accompanied by service rates to cover costs of services rendered by the municipality that include the removal of solid waste for a healthy and clean living environment, water and sanitation, and electricity.

5.6 Connection to the literature

Previously, under Chapter Two I offered a foundation of literature for positioning the study within a context of prevailing publications involving the sanitation policy and other sanitation challenges that other countries have experienced. Empirical studies spanning policy trends, resident expectations, and student development theory, the historical underpinnings of the government, the evolving local municipality role, and both the welfarist and modernisation theories now serve as the collective lens for examining recorded findings. Comparative literature is utilised to aid develop sense relating to the themes that emerged in this study. Whereas previous research has not directly explored how the Umlazi (Q-section) residents experience and comprehend the uncollected refuse, underlining parallels in the findings and connecting the differences in samples and sceneries is required to suggest relative implications.

In general, the incapacity of populaces to pay for the basic services poses a negative threat onto the natural surroundings as well as on the health of the residents. This contradicts the welfarist theory and the modernism theory which both talk about the welfare of the people in a modern society. Subsequently, residents resort to constructing shallow pit latrines and dumping away the solid waste illegally as they either cannot afford this basic service or, they simply lack the educational knowledge of the paramount importance of solid waste management. This is why in Umlazi (Q-section), heaps of garbage is very much often seen along the streets and roads or on the pavements. A common phenomenon after the events of rainfall at Umlazi (Q-section) is the scattered garbage following down the roads or that of children playing on the streets touching the wastes with their hands.

It was revealed from the interviews that from the participating respondents, women are the ones who generally have to be at home and take care of the families. Women are the ones that are mostly affected by the impacts of solid waste. This is particularly so because when the children encounter an illness which is related to waste, the responsibility to take care of the child rests with the woman and make certain that the child receives the appropriate medical attention required. Conversely, it was noted that women do not generally attend the community

meetings with which the municipality would be held accountable for any poor service delivery within the area. This infringes on the right of the children to a healthy and safe environment since they are not aware of the implications of playing on a dirty environment. Some respondents highlighted that they do not see the reason to attend the meetings since they consider nothing would change and that they see less or no interaction with the leadership of the area to begin with.

Notwithstanding the fact that South African Department of Environmental Affairs is encouraging green investments and environmental consciousness, the residents of Umlazi (Q-section) are not well informed about the environmental and health impacts poor management of solid waste has. Respondents are aware that the burning of solid waste instigates air pollution, but the residents do not know what health impacts the poorly managed solid waste has on them.

The focus by Ogola (2012) was mainly on the waste generation by different income groups. Umlazi (Q-section) is comprised of middle and low-income households. The area includes a part with informal settlements or shacks and now RDP houses and some of the respondents come from these houses as residents. A conclusion was made that the level of income per household group has an effect on the amount of solid waste that can be generated by that specific group. This determination means that more waste will be generated when the income level of the group is higher. Umlazi (Q-section) residents represent an income group which generates more waste but lacks the necessary practices of solid waste management. Recycling is not encouraged. When asked what coping mechanisms they employ as they are faced with little or no collection at all of the solid waste in the area, none of the respondents asserted the recycling mechanism.

Part of the problem also, is that the residents make use of the incorrect refuse bag for the storing of garden waste and building material as there are always houses getting built. The black plastic bag residents receive from the municipality is for purposes of storing the solid waste and not garden waste. Residents tend to put everything that they regard as waste to them onto the refuse bag for solid waste. The end result which follows this action is that the people who collect the waste are selective upon doing so and leave behind the refuse bag with the garden waste or anything that is not meant to be inside the bag. Consequently, drainage pipes always get blocked and the narrow roads also flooded with dirt and during the rainy seasons. This becomes

a problem to the environment and the health of the residents. When children play on the roads, they play on the same dirty roads and polluted water causing harm to their health.

The respondents indicated that the mainstream generation of garbage per week is not met by the number of refuse bags that the municipality provides to them as families are too big and consume a lot of products that later call for disposal as waste. It was mostly highlighted during the interviews that in the middle-income parts of the study area, households get supplied between twenty and thirty six refuse bags for a period of three months. The poor households indicated that they normally get just one bag per week. All respondents affirmed that the number of refuse bags they get for the given period is not enough to last them since households comprise of bigger families which generate more waste. Some respondents further indicated that they even have to buy the refuse bags themselves when they run out of the ones provided for by the municipality and this creates a problem for them because they have to utilise the money that can be used for other necessities for something that they had not allocated or reserved money for. Households have family members ranging from five to ten members and this is a concern because the general case is that either one or two of these members have a job, and a well-paying and stable one to extend. Some also fall under the category of pensioners or receive social grants from the government and this is what they depend on for sustenance. Households normally have an increase in the waste that is generated per household during the holiday season as more members are home and not working or in school.

Some households notwithstanding the size, reported that they generate just one bag of waste in a week and this is because they do not afford enough products to consume. This submission indicates that there exist a directly proportional relationship between the income that is earned and the amount of waste generated by a household. So long as the income of the family members is low, the size of the household or family seldom plays a role or has an effect in this regard. Conversely, when a household comprises of numerous family members and they have enough income for purchasing of goods to consume, it is in such a case that more garbage will be generated.

The majority of the respondents affirmed that they resort to the illegal dumping of garbage within the area. The residents either throw away the solid waste in their gardens or backyard. Only a small percentage of the respondents did not mention having to dump the solid waste in the garden. The admission that the residents contribute to the illegal dumping of solid waste was consolidated by the fact that the frequency of the collection of solid waste is not adequate

and/or the collection of solid waste is no longer conducted at all. Respondents submitted that the collection of solid waste should be done more than once a week. They submitted that since the garbage collection is conducted once a week within the area, in the event that the waste collectors collect waste at the incorrect time allocated as should be in the morning on every Tuesday, the area gets polluted significantly as each household has already taken out the waste for collection before the allocated timeframe. However, it was noted from the interviews that one of the problems is that some residents take out the waste either before or after the prescribed time and day of collection. As a result, some refuse plastic bags on the street are there before the agreed time and this presents an opportunity for the refuse to be dispersed by the domestic animals and scattered all over the environment. In the event that the collection of waste is missed on a week, households have nowhere else to dispose their waste but to just leave it outside their houses or by the road where it is normally collected as they had already taken the waste out for collection. Respondents even suggested that the collection of waste should be twice per week and that it would be much helpful if there could be a common area for public use of disposing waste within the area where the waste collectors would then collect it from in lieu of having to leave the waste outside their gates or houses whereas it will not even be collected and subsequently cause bad odour and pollution.



Image: Taken from Umlazi (Q-section) on 22 October 2018



Image: Taken from Umlazi (Q-section) on 22 October 2018.

The above images contextualises with the contents of the paragraph above that residents put the solid wastes along the road for collection.

I explored the subsequent impacts relating to the health of the public and the environment as a result of the illegal dumping within the area. The above table makes an indication of the results that came about. The majority of the respondents indicated that suffer from common illnesses such as flu, respiratory problems, and skin rashes. Respondents also reported cases of cholera in the area. During the interview, some of the respondents indicated they had no knowledge of the waste related illnesses or health impacts but indicated they do experience flu on a normal basis in their households. Some respondents indicated that they do not allow their children to play in the streets and some reported that their children do not reside with them in the area but live elsewhere. The majority of the respondents reported that the area looks unclean and unattractive as a result of the garbage that is within the area and not collected as should be the case.

Another observation made by myself as the researcher was that in some households, there existed no bins for the storing of solid waste but families relied on the refuse plastic bags provided by the municipality. This is why some respondents reported that the refuse plastic bags get damaged by the domestic animals when the garbage is lying around and not collected and subsequently gets scattered around the streets or the backyard causing environmental pollution. The respondents mentioned the most common pets being dogs and cats but the researcher noted that there exists chickens also. And these domestic animals contribute to the scattered litter in the area as the refuse plastic bags are easy to break by these animals. When this occurs, the responsibility to clean up the mess rests with no one specific and therefore the aesthetic beauty of the environment is disturbed. It follows then that refuse bins are pivotal in each household in order to limit the exacerbation of this problem of illegal dumping.

Some respondents stated that another major problem is that the trucks which are involved in the collection of solid waste within the area are not frequently serviced and this subsequently means that the trucks are not capacitated to conduct the service of waste collection. The inadequate or infrequent collection of solid waste within the area is therefore sometimes caused by the unavailability of trucks. However, respondents also affirmed that the roads are not big enough or fitting for the passing of the cars. The road was further damaged during the construction project of houses in the area to end the problem of shacks and meet the contemporary demands of a modern society. As a result, waste collection trucks do not go to the area because they will not be able to pass through. This study then contributed by saying that the local councillor together with the Local Municipality Solid Waste Management directorate must redesign the routes or even consider expanding some of the narrow roads as it is unfortunate that the size of roads could deprive people their democratic right assured for by the supreme law (i.e. Constitution of the Republic of South Africa Act 108 of 1996) to live in a clean, safe and healthy environment. If this error remains unattended to, it would then confirm that some communities are still conditioned by the apartheid system which deprived them access to service delivery because of gravelled and narrow roads. If this continues, one would ask: “whose democracy is it?”. The local municipality should be seen maximizing good sanitation for its people as pronounced by the welfarist theory as well as the South African National Sanitation Policy (2016).



Image: Taken from Umlazi (Q-section) on 22 October 2018.

The above image shows the condition of the narrow and poor road that is the entrance to the informal part of the area. The road gets really mudded during rainy seasons.

5.7 Conclusion

This chapter has presented the results collected from ten participants as informants on the challenges to the delivery of one of the basic services, collection of solid waste. What emerged during the interviews is that the majority of the households are headed by people above the age of 30 and that residents in the area do not hold any higher education qualification.

The challenges pertaining to solid waste management or the collection of refuse at Umlazi (Q-section) as identified by the respondents include the poor relationship between the public and the municipality as the municipality does not communicate the problems to the residents, poor infrastructure, and the lack of public knowledge. Equally, the challenges to the collection of refuse at Umlazi (Q-section) as further indicated by the informants are the social inequality, poor oversight and the limited resources.

The research has somewhat revealed numerous fundamental facts that have furnished significantly to the inadequate management of solid waste in Umlazi (Q-section) area. Umlazi (Q-section) comprises of both low and middle-income groups and although the residents are not educated enough, they came across as being aware of the effects that the poor practices of solid waste management has on the environment and their health as they cited several health conditions that they normally encounter as a result of the poorly managed solid waste within the area. However, since the waste collectors do not collect the solid waste on time or do not collect it at all, the residents affirmed resorting to alternative means of dealing with the problem of solid waste in their community and most of them practice the burning of solid waste. During the investigation, it was clear that the residents are aware of the possible health implications as having already experienced them.

This research study was able to reveal if the municipality makes provision of the refuse plastic bags to the community of Umlazi (Q-section) as this is a government strategy of ensuring that the environment is not polluted. Respondents indicated that they certainly receive refuse plastic bags for storing of solid waste in their homes prior to the collection of the waste. The researcher also confirmed the frequency of solid waste collection in Umlazi (Q-section) is not inadequate. The study was able to reveal the reasons behind the poor collection of solid waste. Furthermore, the investigation was able to unearth the negative implications on the health of the residents which are a result of the ineffective and inefficient waste collection. Finally, the study was able to comprehend the coping mechanisms that the residents employ in dealing with the issue of garbage in their area.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS:

6.1 Introduction

Chapter five represents the final part of the study and focuses on discussing the results that have been presented in the chapter preceding this final one. The chapter makes an assessment of the research findings and further includes the existing gaps and weaknesses, and concludes with policy recommendations. Recommendations based on the assessed results then follow and are aimed at presenting possible approaches to eliminating the illegal dumping, and the ineffective collection of solid waste in Umlazi (Q-section). The recommendations comprise of those made by the respondents during the interviews as well as the perception of the researcher. This is done through the inference on the previous chapters and the theoretical frameworks that chapter two placed this study under.

6.2 Analysis on the collection of refuse at Umlazi (Q-section)

6.2.1 Importance of the collection of refuse

Everyone in South Africa needs to be in a safe and healthy environment, and this notion is acknowledged under Section 24 of the Constitution of the Republic of South Africa through NEMA. The decentralised government, through the Municipal Systems Act 32 of 2000 confers the duty on the local government to realise the implementation of solid waste management within municipal areas progressively. Additionally, findings of the study point toward the importance of collection of refuse extends to allow for the participation of community members as the designers for their development. In the study conducted by Ndinda (2006), this finding surfaced as the study argued that communities have a role in the designing, implementation, maintenance and evaluation of a project as the target group of that project for the effective service delivery and policy development.

From the data gathered, it is explicit from the understandings of the respondents that the collection of refuse is a paramount right given the unemployment rate, poverty levels and social inequality that is the case in South Africa. Most residents do not afford paying for the provision of basic services, and as a result, they rely heavily on the government to progressively manage the solid waste in their area of Umlazi (Q-section). However, from the respondents' views, it was established that some residents do not attend meetings or see the importance of doing so. Other respondents indicated that they attend meetings but the service (i.e. refuse collection)

delivery has not been raised in the meetings. From this premise, it can further be argued that either the municipality lacks the necessary structures to encourage community participation in the projects as entrenched through the democratic governance system or the residents are apathetic.

This study has revealed that if the collection of the waste was to be conducted on a frequency of two days every week and provision of strong municipal waste plastic bags to fit the different types of wastes from households, the existing waste problem in Umlazi (Q-section) would be curtailed. The research has shown that the collection of waste is only done once a week and times of collection are not stuck to as waste is ought to be collected in the mornings. An inference follows that effective communication between the relevant parties (i.e. local government, contracted waste collecting companies and the residents) is lacking and this is regarded as an indispensable factor. A supporting instance is that some residents take the solid waste out on the street or by the gate on the wrong dates not meant for collection and consequently, the neighbourhood is left with so much plastic bags full of waste. It means that the public is not well informed of the working principles for the collection of solid waste. Whilst it could be concluded that the residential area of Umlazi (Q-section) requires a different approach to solid waste management like recycling, there could be no indication of the method being employed anytime soon. What led to this conclusion is the fact that, Umlazi (Q-section) does not have any personnel which is capacitated with environmental regulations in the area. The area clearly lacks aesthetic beauty, and therefore, the local government needs to stimulate local tourism in the township of Umlazi since this is one of the biggest local townships in the country. This way, the residents will be encouraged to employ effective and proper approaches to solid waste management and therefore have the area kept tidy and neat.

The results of the research showed that there was an equal participation by both genders in the interview schedule during data collection. From the interviews conducted, the most prevalent age group of individuals that were interviewed was between thirty and forty. The reason for the availability of this age group may be that the youth of Umlazi (Q-section) is unemployed and the people that fall within this age group are dependent on the government social grants with which their children get from the government. The study showed that the majority of the residents of Umlazi (Q-section) have not attained any tertiary level education and have not even passed the last phase of the high school education. People are as a result mostly at home during the day or underemployed if ever employed. The low levels of education therefore significantly contribute to the poor lifestyle of the residents since the results have indicated a

low employment rate in the community of Umlazi (Q-section). It is also apparent from the study that the environment and public health do not enjoy fitting (high) priority in Umlazi (Q-section) due to the fact that any general resident is least concerned with the protection of the environment when they are unemployed or underemployed. The public is merely worried about sustenance on a daily basis and not environmental degradation and prevailing health burdens.

In general, the existing notion is that the higher the income for a group, the greater the generation of waste. This theory is nevertheless contradicted by the results of Umlazi (Q-section). This is due to the fact that it was observed that the area is a low-income, and yet, there are high levels of waste generation and solid waste disposal. What attributes to this fact is that households of Umlazi (Q-section) comprise of huge numbers of family members, and therefore more people consume products and ultimately generate waste. The high numbers of family members in the households calls for more generation of solid waste.

The residents of Umlazi (Q-section) are not being monitored when it comes to the burning of wastes and thus are able to burn any kind of waste without any restrictions. This significantly contributes to the existing common problems relating to the health of the residents in the area. It is essential that the local government considers a system to regulate the burning of solid waste in the backyards and along the road or in just any public space in Umlazi (Q-section).

6.3 Policy Recommendations

Westcon (2002) asserts that the shortage of awareness relating to waste accompanied by the invisible priority provided to the management of waste as a municipality service was a primary issue. As a result, it is significant to identify all potential complications within all the departments of the government. In the past, waste management has not been given high priority and this has subsequently meant not enough proper financing for the programmes relating to waste management. There exists a backlog in the development of the infrastructure when the capital is lacking. And as a result, there is not a focus on prosecuting those who mismanage waste.

In the developing countries, there are numerous issues that require addressing in an appropriate way in order to deal with the generation of solid waste. There is not enough investment meant for the technology and the equipment which is for waste management. There are preceding key issues which need to be attended to first before investment to such equipment and technology be made, otherwise the whole purpose is defeated. What is required at first is the preceding investment into the development as well as implementation of a sound, dependable and feasible

waste management policy on a national level. Without an achievable policy at hand, the investment in the equipment and technology is futile.

The municipalities form part of the local government in the developing countries. The municipalities can develop and implement consistent, efficient, feasible and cost-effective programmes in line with solid waste management which forms part of clearly demonstrated goals on a national level. While South Africa does have an environmental policy in place and that which has been stipulated at the beginning of this study under chapter one being under the Bill of Rights which affirms the right of all citizens to a healthy environment, it is worth noting that the government has not put in place any visible strategies to facilitate the achievement of this goal.

The government needs to involve the public when developing a national policy for implementation. Residents are the end users of a waste management method, and so inclusion in the policy development rather than merely enforcing the policy onto the public needs to be considered on a national level. This way, the public and private sectors can consult with the masses and reach a feasible approach to the goals of the policy and the public ultimately becomes aware of what practices to put into place for solid waste management and thereby cooperate with the national policy. The policy should by all means recognise the fundamental aspects upon the development i.e. social, economic, political and cultural conditions of the societies expected to cooperate with the system implemented. Clear roles and responsibilities between the structures involved need to be well defined in order to avoid unnecessary expectation and controversy during the application of the system. The national policy should indicate the regulatory and legal framework pertaining to those that violate the policy like air polluters through the burning of solid waste. Umlazi (Q-section) requires an introduction of penalties to whoever conducts illegal dumping or does not comply with the system like sticking to the date and time of taking out the solid waste for collection. The local government responsible for the policy in Umlazi needs to also consider strong terms and conditions between the company responsible for waste collection and itself like reducing the timeframe of contract validity in order to be able to get rid of the contacted company that does not conduct its business efficiently and effectively.

6.4 Recommendations

6.4.1 Citizen participation

In a study conducted at Bosnia and also this one in Umlazi (Q-section), it was revealed that citizen participation in decision making is lacking in the local governance. Citizens do not participate in the local decision and policy making due to the fact that, the attitudes of citizens toward governance are weak and this means that the views of the public concerning the government are not defined or strong. The public does not fully understand the role which is supposed to be played by the local government and that decisions and policies pertaining to the public ought to involve the public. Citizens do not believe that they have the capacity to influence policy but expect development.

For this reason, it is recommended that the municipalities develop and implement mechanisms that include the public or citizens upon decision and policy making and end the general perception by the public that they do not have the power of input and not necessarily get to contact the local officials solely on the event that they require help dealing with a household problem. Service delivery involves various parties and the municipality must now encourage public participation for an effectual service delivery. The public must be provided with a platform to voice their opinions regarding the delivery of the solid waste management service at Umlazi (Q-section).

6.4.2 Waste commercialisation

This study has not shown the coping mechanism to the waste problem through reclaiming items by residents. What is regarded as waste to an individual cannot necessarily be regarded as waste to the other person. In a locale as this one where there exists a problem of garbage not being collected, it can be at an advantage to the residents if residents commercialise waste within the area. Residents are subjected to poverty and are either dependent on the public sector or merely underemployed. As a result, reclaiming disposed items for monetary gain is another way of dealing with the issue whilst benefitting financially. Reclaiming waste can be considered as financial relief to the households involved and ultimately provide a different source of income to those participating in the trading of items. This way, through commercialisation of waste, residents or households can potentially expand on the limited choices they have of earning an income. Ultimately, households can this way be capacitated with an alternative to affording necessities against the household schedule like payments of existing bills (i.e. groceries and school fees). Monthly shortfalls are in this instance, overcome as there are normally unusual expenses in households of huge family individuals. Reclaiming of waste offers significant means of poverty reduction in particular to the unemployed residents.

6.4.3 Waste Recycling

Recycling is one of the methods that can be stimulated in the area of Umlazi (Q-section). None of the respondents mentioned this approach as a coping mechanism to the issue of garbage in the area. Recycling can help eliminate the problem of solid waste lying around the neighbourhood as this exposes the public to various health problems and environmental degradation. Old appliances need to be considered for recycling in lieu of being dumped away as waste. The entire public needs to be taught about the measures of waste reduction and minimisation including the recycling programmes and waste reclaiming. From the source, products to be purchased should be recyclable items. Some plastics are not recoverable and so plastics ought to be separated according to the different types for the recovery process to be effectual. According to Folz (1996), there now exists a system of uniform coding that is stamped by the manufacturers onto each item to be sold and purchased by a consumer in order to facilitate the process of sorting different wastes for recycling. Apart from plastics, other products like glass also come in varying types, each of which have to be separately sorted and recovered. This process is meant to avoid the contamination of different types of a product, otherwise the recycled product would be rendered unusable.

Recycling of items can be considered as one way of income generation by the public and ultimately end the poverty cycle in the area. Through the recycling of paper for instance, protection of the environment or the natural resources can be achieved since paper production requires deforestation. This way therefore, the greater community would be able to conserve the trees. Furthermore, quality of life would thus be enhanced through paper recycling since trees provide oxygen. These are some of the numerous advantages that recycling as a method of environmental protection or waste management can provide.

6.4.4 Source Reduction

Umlazi needs to implement the source reduction approach to dealing with solid waste management. According to the Environmental Protection Agency (2009), source reduction is the quantity reduction of a material which is to be discarded or regarded as waste. Through this practice, toxic substances that are found in the products can be lessened. Alternatively, the manufacturing companies must opt for the production of materials that are durable. Those purchasing the materials as consumers of a products can in this way moderate waste as a result. (Environmental Protection Agency, 2009).

6.4.5 Other approaches

- The local government needs to develop strategies of communication to apprise citizens of the policies, services, programmes, and initiatives by the municipalities; provide the residents with a platform to express their views and respond to the needs of the citizens.
- Local authorities needs to organise regular meetings with the residents and visit communities on a regular basis.
- The national government needs to develop a mechanism for audit as a system of evaluating local government performance on service delivery.
- The local authorities need to regularly conduct a monitoring and evaluation procedure to check if the company awarded a contract to collect the waste is doing it effectively and efficiently or not.
- In the event where a problem pertaining to poor service delivery is not resolved sooner, local officials could meet with the residents and explain to them the reasons to avoid the public not being informed.
- Establish a method of ensuring that the financial burden of waste on the health of the product consumers and the environment lies as a responsibility of the product manufacturers.
- Develop informative programmes to the public to promote a culture of waste elimination.
- The national Department of Environmental Affairs needs to seek more funding for the dissemination of useful information aimed at environmental awareness.
- The public sector must allow a sense of integration between different government entities (i.e. Human Settlements and Environmental Affairs) for elimination of the existing forces prohibiting an effective implementation of a policy.
- The private sector needs to work together with the public sector and the people for a balanced approach to achieve the said goals as stipulated in the Constitution of South Africa.
- The residents need to be educated about the potential health effects which practices that detriment the environment has on them in order to develop new approaches to coping with the challenges of solid waste.
- Develop and enforce a regulatory framework that encourages the prevention of causing environmental distress like the burning of wastes. Culprits can be fined if caught practicing such an act. This way, waste reduction will be promoted and thereby encourage alternative approaches like recycling and reusing of products.

6.5 Contribution:

The findings from this study pointed toward the lack of cooperation between the relevant stakeholders, uncoordinated approaches, institutional structural weaknesses, contractual issues between the contracted collectors and the municipality, complexities in the consumption patterns, burning without clear air control, lack of political commitment, limited public awareness pertaining to sustainable solid waste management practices, and various other issues.

With regard to the defective application of sanitation policy and specifically the refuse collection, this study contributed by suggesting a critical review of the tender allocation process for those that will be contracted by the municipality and thoroughly monitored so as to avert situations whereby lack of accountability prevails over merit as well as competence in as far as policy implementation and sustainability is concerned. This will avoid the contractual issues and ensure effectiveness. In essence, situations like that of Umlazi (Q-section) whereby contracted people by the municipality end up not delivering what is expected of them, need to be averted according to this study. This study further contributed by suggesting the encouragement of rural development, in order to deal with the issue of rapid urbanisation. Implication of the policy emanating from the said challenges delays the anticipated development.

6.6 Conclusion

Solid Waste Management is a common challenge across the globe owing to various reasons which include the lack of effective implementation strategies which call for the sustainability of the waste policies in line with the changing lifestyles, the rapid urbanisation or urban sprawl, and increased production processes. The core objective of this study was to establish the challenges that come with the poor or ineffective collection of refuse in the area of Umlazi (Q-section), an area of a low-income group.

Collection of refuse bags in the low-income or developing areas of South Africa including Umlazi (Q-section) persist to be a paramount, yet challenging programme. Owing to the limited resources, rural-urban migration, service demand, poor public participation, policy oversight, non-compliance with the chosen standards and norms of solid waste, poor relationship between the public and the municipality, it is apparent that what ought to be a commendable and acknowledgeable service delivery by the eThekweni Municipality is not effected properly along

with these preceding challenges. The commitment, at least on this part indicates that the municipality considers the solid waste management to be a pivotal aspect of service delivery.

References

- Abor, P.A. (2007). *Medical waste practices in Southern African Hospital*. Cape Peninsula University.
- Abouzied, A. and Chen, J. (2014). *From Alley to Landfill: Challenges of and Design Opportunities for Cleaning Dhaka's Communal Trash*. Dhaka, Bangladesh.
- Afangideh, A. I., Joseph, K. U. and Atu, J. E. (2012). Attitude of urban dwellers to waste disposal and management in calabar, Nigeria. *European Journal of Sustainable Development*, vol.1, no 1.
- Agriculture, Natural Resource Conservation Services.
- Akintoye, A. (2015). *Developing Theoretical and Conceptual Frameworks*. Available from: <http://www.jedm.oauife.edu.ng/uploads/2017/03/07>
- Allende, R. (2009). *Waste History in the Gambia*. M. Sc. Thesis. University of the Gambia.
- Anderson, J. E. (2010). *Public policy making - An introduction (7th ed.)*. Boston MA: Wadsworth.
- Asian Productivity Organisation, (2007). Solid Waste Management: Issues and Challenges in Asia. *Report of the APO Survey on Solid-Waste Management 2004–05* the Asian Productivity Organisation. Mumbai, India.
- At Work, (2007): *What researchers mean by validity and reliability*. Institute for work and health, issue 50. Toronto.
- Babatola, J.O., 2008. A Study of Hospital Waste Generation and Management Practices in Akure, Nigeria. *African Research Review*. 2 (3): 292-305.
- Berg, B. L. (2009). *Qualitative research methods for the social sciences (7th ed.)*. Pearson International.
- Boetti, L, Piacenza, M. and Turati, G. (2009). Fiscal Decentralisation and Spending Efficiency of Local Government – *An Empirical Investigation on a Sample of Italian Municipalities*. University of Pavia: Società Italiana di Economia Pubblica.
- Bratton, M. (2012). Citizen perceptions of local government responsiveness in sub-Saharan Africa. *World Development*, 40(3), 516-527.

BRCorp, (2014). Impact of Urbanisation on Municipal Solid Waste Management: A System Dynamics Approach. *International Journal of Renewable Energy and Environmental Engineering* ISSN 2348-0157, Vol. 02, No. 01, January 2014.

Brieger, W.R. (2006). *Definitions of Community*. Johns Hopkins University, School of Public Health, Baltimore, MD.

Briscoe, F. M. (2005). A question of representation in educational discourse: Multiplicities and intersections of identities and positionalities. *Educational Studies*, 38 (1), 23-41.

Brondizio, E., Leemans, R., & Solecki, W. (2014). *Current Opinion in Environmental Sustainability*. Texas, U.S.A.: Elsevier Press Inc. dx. doi.org/ 10.1016/j. cosust.2014.11.002 CC BY-NC-SA License.

Bryman, A. (2012). *Social research methods*. New York: Oxford University Press.

Business Dictionary. Available from:
<http://www.businessdictionary.com/definition/environmental-sanitation.html>.

Castillo, M. and Hardter, U. (2014). *Integrated Solid Waste Management in Island Regions*. Ed. Irma Larrea Oña. WWF and Toyota, Galapagos-Ecuador. USA.

Charmaz, K. C. (2014). *Constructing grounded theory (2nd ed.)*. Thousand Oaks, CA: Sage.

Chen et al., (2010). *An overview of municipal solid waste management in China Waste Manage.*, 30 (4) (2010), pp. 716–724. China.

City of Johannesburg, (2003). *City of Johannesburg State of Environmental Report Ekurhuleni Metropolitan Municipality*, Johannesburg, South Africa.

Cohen, L., Manion, L., & Morrison, K. (2011). *Research methods in education (7th ed.)*. London: Routledge.

Constitution of the Republic of South Africa (Act No. 108 of 1996). Pretoria: Government Printers.

Constitution, (1996). Chapter 7: *Local government*. Constitution of the Republic of South Africa. Pretoria, South Africa: Juta Law.

Corbin, J., & Strauss, A. (2015). *Basics of qualitative research: Techniques and procedures for developing grounded theory (4th ed.)*. Thousand Oaks, CA: Sage.

Creswell, J. W. & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into Practice*, 39(3), 124-131.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage.

Da Motta, R.S and Moreira, A. 2009. Political factors and the efficiency of municipal expenditure in Brazil. *Economica Aplicada*, 13(4): 353 371

Daily Trust, (2013). *Industrialisation in South Africa*: The impact of globalisation. Trade Mark Southern Africa.

Davies, D., & Dodd, J. (2002). Qualitative research and the question of rigor. *Qualitative Health Research*, 12(2), 279-289.

De, S. and Debnath, B. (2016). Prevalance of Health Hazards Associated with Solid Waste Disposal-A Case Study of Kolkata, India. 35, 201-208 *Procedia Environment Sciences*. Available from: www.sciencedirect.com.

Department of Environmental Affairs and Tourism, (2001). *National Waste Management Strategy (NWMS)*, Version D, Pretoria.

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives. Chapter 15 Volume 034 P. 99 – 126. Available from: <http://data.europa.eu/eli/dir/2008/98/oj>.

Dudley Street Neighbourhood Initiative, (2013). *Dudley Street Neighbourhood Initiative*. Available from: <http://www.cpn.org/DSNI/index.html>.

Durgekar, V. (2016). Towards sustainable waste management through technological innovations, effective policy, supply chain integration & participation. *Procedia Environmental Sciences*, 35, 140–149. doi:10.1016/j.proenv.2016.07.06. The Netherlands.

DWA, (2016). Draft National Sanitation Policy. *Department of Water and Sanitation*: Pretoria, South Africa.

Environmental Protection Agency, (2009). *This guideline provides definitions for a range of terms commonly used within the waste industry*. Available from: <http://www.epa.org/842/09/>.

EPA, Environmental Protection Agency, (2012). MSW characterization methodology.

Flick, U. (2014). *An introduction to qualitative research (5th ed.)*. London: Sage Publications Ltd.

Folz, D. (1991). Recycling Program Design, Management, and Participation: A National Survey of Municipal Experience. *Public Administration Review*, 51 (May/June, 2002). doi:10.3390/recycling.2030011.

Freeman, M. (2000). Knocking on Doors: On Constructing Culture. *Qualitative Inquiry*, 6(3), 359.

Gentles, S. J., Charles, C., Ploeg, J., & McKibbin, K. (2015). Sampling in Qualitative Research: Insights from an Overview of the Methods Literature. *The Qualitative Report*, 20(11), 1772– 1789. Available from: <http://nsuworks.nova.edu/tqr/vol20/iss11/5>.

Giorgi, A. (2009). *The descriptive phenomenological method in psychology: A modified Husserlian approach*. Pittsburgh, PA: Duquesne University Press.

Glossary of Environment Statistics Archived 2013-01-04 at the Wayback Machine. UNSD.

Goel, K. (2014). *Understanding Community and Community Development Defining the Concept of Community*. Available from: https://www.researchgate.net/publication/273134736_Understanding_Community_and_Community_Development_Defining_the_Concept_of_Community.

Gopaldas, A. (2016). A Front-to-Back Guide to Writing a Qualitative Research Article, Qualitative Market Research: An International Journal, 19(1), 115–121. *Journal of Economic Development, Environment and People*, Vol-7, Issue 01, 2018, pp. 23-48.

Gouldson, A., Carpenter, A., Afionis, S. (2015). Environmental Leadership. Comparing Regulatory Outcomes and Industrial Performance in the United States and the European Union. *Journal of Cleaner Production*. Vol. 100, p. 278-285. Bristol, UK.

Government Communication and Information Systems, (2013). Pocket guide S.A 2012/2013. Available from: <http://www.GCIS.gov.za/Agriculture>.

Grant, C. & Osanloo, A. (2014). *Understanding, Selecting, and Integrating a Theoretical Framework in Dissertation Research: Creating the Blueprint for 'House'*. Administrative Issues Journal: Connecting Education, Practice and Research, Pp. 12-22 doi:10.5929/2014.4.2.9

Greedy, D. and Thrane, J. (2008). Closed for business - A look at the closure of open dumps. Retrieved December 08 2018, from: <http://www.wastemanagementworld.com/articles/print/volume-9/issue-6/features/closed-for-business-a-look-at-the-closure-of-open-dumps.html>.

Guerrero, L. A., Maas, G., & Hogland, W. (2013). Solid waste management challenges for cities in developing countries. *Waste Management*, 33(1), 220–232. doi:10.1016/j.wasman.2012.09.008. The Netherlands.

Halfani, M. (1995). *"The Challenge of Urban Governance in Africa: Institutional Adjustment and the Knowledge Gaps"*. Page 17, presented Second African Urban Forum, Nairobi.

Hargreaves, A. (2009). *The fourth way of change: Towards an age of inspiration and sustainability*. In A. Hargreaves & M. Fullan. *Change wars* (pp. 11-43). Bloomington, IN: Solution Tree.

Hargreaves, A., & Fink, D. (2006). *Sustainable leadership*. San Francisco: Jossey-Bass.

Hoornweg, D., Bhada-Tata, P. (2012). What A Waste: A Global Review of Solid Waste Management. *Urban Development Series Knowledge Papers*. Vol. 15, p. 1-95. Washington DV, USA.

Huang, Y., Ning, Y., Zhang, T., & Fei, Y. (2015). Public acceptance of waste incineration power plants in China: Comparative case studies. *Habitat International*, 47, 11–19. doi:10.1016/j.habitatint.2014.12.008. China.

Imenda, S. (2014). Is There a Conceptual Difference Between Conceptual and Theoretical Frameworks? *Journal of Social Science*, 38(2):185-195.

Kamalski, J. (2010). *Research Practice in Waste Management*. Utrecht University, Netherlands.

Kaufman, S., Themelis, N. (2009). Using a Direct Method to Characterize and Measure Flows of Municipal Solid Waste in the United States. *Journal of the Air and Waste Management Association*, Vol. 59, p. 1386-1390.

Kaufman, S., Themelis, N. (2009). Using a Direct Method to Characterize and Measure Flows of Municipal Solid Waste in the United States. *Journal of the Air and Waste Management Association*, Vol. 59, p. 1386-1390. Lincoln, Nebraska.

- Keller, S. (2009). *Welfarism*: Philosophy Campus. Vol 4 (1). Pp. 82-95.
- Kuklyns, W. & Robeyns, I. (2004). *Sen's Capability Approach to Welfare Economics*. U.S.A: Sage Publications.
- Kumar S., Bhattacharyya, J.K., Vaidya, A.N., et al. (2009). Assessment of the status of municipal solid waste management in metro cities, state capitals, class I cities, and class II towns in India: an insight. *Waste Manage.* 2009; 29: 883–895.
- Kumar, S. (2011). *Integrated Waste Management Volume I*. Available from: <http://www.intechweb.org>.
- Levitt, H. M., Motulsky, S. L., Wertz, F. J., Morrow, S. L., & Ponterotto, J. G. (2017). Recommendations for Designing and Reviewing Qualitative Research in Psychology: Promoting Methodological Integrity. *Qualitative Psychology*, 4(1), 2–22.
- LoBiondo-Wood, G. (2010). Understanding Research Findings. IN LoBiondo-Wood, G. & Haber, J. (Eds). *Nursing Research: Methods and Critical Appraisal for Evidence-Based Practice (7th Edition)*. St. Louis MO: Mosby Elsevier.
- Local Government Act, (1997). *Second schedule, functions and services of government and local governments*. Pretoria.
- Lombard, R. & McPherson, M. (2013). *A comparison of three waste collection systems appropriate to formalising communities in Southern*. Solid waste collection that benefits the urban poor. Dar es Salaam.
- Machi, L. A., & McEvoy, B. T. (2009). The literature review: Six steps to success. Thousand Oaks, CA: Corwin Press, pp. 14 & 19.
- Meadows, K. A. (2003). So you want to do research? 2: Developing the research question. *British Journal of Community Nursing*, 8(9), 397-403.
- Matibane, L. (2010). *Improving service delivery through partnerships between Local Government, Civil Society and the Private Sector: A case study of Imizamo Yethu*. Stellenbosch University, South Africa.
- Mavropoulos, A. (2011). Waste management 2030+. Retrieved December 18 2018, from: <http://www.waste-management-world.com/articles/print/volume-11/issue-2/features/waste-management-2030.html>.

Medina, M. (2010). Brazil: *The World's Largest Scavenger Movement*. BioCycle, August. Brazil.

Merriam, S. (2009). *Qualitative research: A guide to design and implementation* (Revised and expanded from 'Qualitative research and case study applications in education'). Hoboken, NJ: Jossey-Bass (Wiley).

Mihelcic, J.R. & Zimmerman, J.B. (2010). *Environmental Engineering: Fundamentals, Sustainability, and Design*. State of Florida: John Wiley & Sons.

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Thousand Oaks, CA: Sage.

Mmereki, D., Li, B., & Loeto, P.T. (2012). *Household Perceptions on Solid Waste Management Practices in Developing Countries: The Experience of the Northern Part of Botswana, Donga Area*. Environmental Research Journal, 6: 246-253.

Mohan, B. A. (2012). *Qualitative research methods in second language assessment*. In L.V. Hedges, R. Coe, & M. Waring (Eds.), *Research methods and methodologies in education* (pp. 752-767). Thousand Oaks, CA: Sage.

Municipal Infrastructure: Roles and Responsibilities of National, Sector Departments, Provincial Counterparts and Municipalities (Department of Co-operative Governance, 2006).

Municipal IQ. (2017). Service delivery protests suggest election year lull. Available from: <http://www.municipaliq.co.za/publications/press/201702010920416649.doc>.

Myvirtualpaper, 2012. Available from: <http://www.myvirtualpaper.com/doc/plk-municipality/investment-guide/2012070901/12.htm/>.

Nacson, J. (2007). *Prepared for KEYS: Data Analysis and Interpretation*. Available from: http://www.google.co.za/?gws_rd=cr&ei=4.

Nealer, E. (2007). Local government and service delivery. In Van der Waldt, G. (Ed). *Municipal Management: Serving the people*. Cape Town: Juta.

Noble, H. and Smith, J. (2014). *Qualitative data analysis: a practical example Evidence Based Nursing* 17, 2-3.

Noble, H., Kelly, D. & Hudson, P. (2013). *Experiences of carers supporting dying renal patients, managed without dialysis*. J Adv Nurs; 69:18 29–39.

Norley, N. (2009). *Poor disposal of liquid waste a Menace for city dwellers*. The Ghanaian: Chronicle, 2009.

Ogola, J.S. et al., (2012). *Management of Solid Wastes: A case Study in Limpopo Province, South Africa*. Available from: <http://www.Intechopen.com/InTech>.

Ogola, J.S. et al., (2012). *Management of Solid Wastes: A case Study in Limpopo Province, South Africa*. <http://www.Intechopen.com/InTech> (Accessed 02 August 2018).

Ojo, O.M. (2014). Solid Waste Management in Obantoko Area of Abeokuta, Nigeria. *Journal of Emerging Trends in Engineering and Applied Sciences (JETEAS)* 5(2): 111-115.

Ollis, I. (2011). *No quick fix to save our cities, so we'd better start now*. The Daily Maverick. Available from: <http://www.thedailymaverick.co.za/opinionista/2011-03-12-no-quick-fix-to-save-our-cities-so-wed-better-start-now>.

Oniboku, A.G. and Kumuyi, A. J. (1999). *Governance and Waste Management in Africa. Managing the Monster*. Edited by Onibokum AG. Otwtawa: IDRC.

Owusu, G, Oteng-Ababio, M. and Afutu-Kotey, R.L. (2012). Conflicts and governance of landfills in a developing country city, Accra. *Londsc Urban Plan*, 104:105-113

Palczynski, R. J. (2002). Study on Solid Waste Management Options for Africa. Abidjan, cote d'Ivoire: A Project Report for ADB Sustainable Development and Poverty Reduction Unit.

Patton, M. Q. (2001). *Qualitative evaluation and research methods (3rd ed.)*. Thousand Oaks, CA: Sage Publications, Inc.

Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice (4th ed.)*. Thousand Oaks, CA: Sage.

Pierre, E. A. S. (2012). A Brief and Personal History of Qualitative Research. *Journal of Curriculum Theorizing*, 30(2), 1–19.

Pires, A., Martinho, G., Chang, N. (2011). Solid Waste Management in European Countries: A Review of Systems Analysis Techniques. *Journal of Environmental Management*. Vol. 94 (4), p. 1033- 1050. Portugal.

Pore, S.M. and Randive, S.D. (2014). *A study on environmental sanitation, and personal hygiene among the slum area in Solapur city, Maharashtra*. Walchand College of Arts and Science, Solapur, India.

Porush, D. (2014). *What Makes A Good Research Question? A Short Guide to Writing about Science*. New York: USA.

Punch, K. F. (2013). *Introduction to Social Research: Quantitative and Qualitative Approaches*. SAGE Publications.

Ravitch, S. M. & Carl, N. M. (2016). *Qualitative Research: Bridging the Conceptual, Theoretical and Methodological*. Los Angeles, U.S.A.: SAGE Publications, Inc.

Re' Source Volume 2 No.3 (August 2010). *Waste Management*. South Africa.

Richards, L. (2009). *Handling qualitative data: A practical guide (2nd ed.)*. London: Sage.

Robshaw, M. & Smith, J. (2004). Keeping afloat: student nurses' experiences following assignment referral. *Nurse Educ Today*; 24:5 11–20.

Rouse, M. (2005). Definition Demographics. Available from: <http://www.whatis.techtarget.com/definition/demographics>.

Saldana, J. (2013). *The coding manual for qualitative researchers*. London: Sage.

Salkind, N. J. (2010). *Encyclopedia of research design*. Thousand Oaks, CA: SAGE Publications, Inc. doi: 10.4135/9781412961288

Shekdar, A.V. (2009). Sustainable solid waste management: an integrated approach for Asian countries. *Waste Manage*. 2009; 29: 1438–1448.

Silverman, D. (2010). *Qualitative Research*. London: SAGE.

Simon, M. K. & Goes, J. (2011). *Developing a Theoretical Framework*. Seattle, WA: Dissertation Success, LLC.

South Africa, (1996). *Constitution of Republic of South Africa*. Government Printers, Pretoria.

South Africa, (2000). *Local Government: Municipal Systems Act 32 of 2000*. Government Printers, Pretoria.

South African Government, (2017). Government system. Retrieved from: <http://www.gov.za/about-government/government-system/local-government>.

Statistics South Africa, (Census, 2011). Available from: <http://www.statssa.gov.za>.

Stenbacka, C. (2001). Qualitative research requires quality concepts of its own. *Management Decision*, 39(7), 551-555.

Stewart, J. J., Hedge, D. M., & Lester, J. P. (2008). *Public policy: An evolutionary approach* (3rd ed.). Boston: Thomsom Wordsworth.

The Department of Water and Sanitation of South Africa, (2014). The National State of Water Resources Quarterly Report.

UNEP, United Nations Environment Programme, (2015). Global Waste Management Outlook.

UN-Habitat Report for “Better Urban Future”, 2010.

University of Melbourne, (2013). Reviewing the literature: a critical review. Retrieved from: http://services.unimelb.edu.au/academicskills/all_resources/writingresources.

UNU-WIDER, (2013). *Inclusive Growth in Africa: Measurement, Causes and Consequences*. Helsinki, Finland.

US Department File program, (2012). Environmental Quality. United States Department of

Van Dijk, M.P. & Oduro-Kwarteng, S. (2013). The effect of increased private sector involvement in solid waste collection in five cities in Ghana. *Epub*: 2013 Jul 15. doi: 10.1177/0734242X13496305

Van Manen, M. (2014). *Phenomenology of practice: Meaning-giving methods in phenomenological research and writing*. Walnut Creek, CA: Left Coast Press.

Vergara, S., Tchobanoglous, G. (2012). Municipal Solid Waste and the Environment: A Global Perspective. *Annual Review of Environment and Resources*, Vol. 32, p. 277-309. Washington DC, USA.

Viswambharan, A. P. & Priya, K. R. (2016). Documentary Analysis as a Qualitative Methodology to Explore Disaster Mental Health: Insights from Analysing a Documentary on Communal Riots. *Qualitative Research*, 16(1) 43–59.

Wan, C., Shen, G. Q., & Choi, S. (2018). Differential public support for waste management policy: The case of Hong Kong. *Journal Clean Products*, 175, 477–488. doi:10.1016/j.jclepro.2017.12.060.

Wanjohi, J.M. (2014). *Research Objectives Presentation. Social Research Methods Series: Proposal Writing Guide*. Kenya.

Watkins, J. (2015). *The effects of an extensive reading programme*. Cambridge English Language Assessment: Research Notes, 61.

Weiner, R.F. & Matthews, M. (2010). *Environmental Engineering*. 4th Ed. Oxford.

Western Sydney University Library. (2016). Essay purpose. Retrieved from: https://westernsydney.edu.au/studysmart/home/assignment_help/writing.

Wolsink, M. (2010). Contested environmental policy infrastructure: Socio-political acceptance of renewable energy, water, and waste facilities. *Environmental Impact Assessment Review*, 30(5), 302-311. Amsterdam, Netherlands.

World Bank, (2012). *What a waste: a global review of solid waste management*. Urban Development Series Knowledge Papers. The World Bank. March 2012. No. 15. UN-HABITAT, 2010. Solid Waste Management in the World's Cities: Water and Sanitation in the World's Cities 2010. In: Earthscan (Series Ed.). 2012.

World Bank, (2015). How we classify countries. Available from: <http://data.worldbank.org/about/country-classifications>.

Wynn, D. Jr., & Williams, C. K. (2012). Principles for conducting critical realist case study research in information systems. *MIS Quarterly*, 36(3), 787–810.

Yin, R. K. (2009). *Case study research: Design and methods (4th ed.)*. Thousand Oaks, CA: Sage.

Yin, R. K. (2011). *Qualitative research from start to finish*. New York, NY: Guilford Press.

Yin, R. K. (2014). *Case study research: Design and methods (5th ed.)*. Thousand Oaks: Sage.

Yooda, R. M., Chirawurah, D. and Adongo, P.B. (2014). Domestic waste disposal practice and perceptions of private sector waste management in urban Accra. *The journal of Public Health*, 14:697. Open Access. Available from: www.biomedcentral.com/1471-2458/14/697.

Appendix A

Dear Sir/Madam

As I had introduced myself earlier when we met, I am **Sanele Dlamini**, a Masters student at UKZN, Howard College Campus. I am currently doing a study as part of my Masters course. The study is focused on the ***"The challenges that come with the delay in collecting community garbage bags. The case study of Umlazi (Q-section)"***. It broadly seeks to explore the implications of ineffective waste collection on the lives of the residents of Umlazi (Q-section).

I would like to thank you once more for agreeing to take part in this study and to also remind you that participation is voluntary. This means that you are not forced to take part in the study. I'd also like to kindly remind you that you may withdraw at any point should you feel you no longer want to carry on as part of the study. As I had said when we met, I will not use your names in my report, neither will I use any information that will expose your identity.

To start off, may you please kindly tell me about yourself and your family?

1. How long have you and your family lived in Umlazi?
2. How many children do you have?
3. Do they have any friends around that they regularly play with?
4. When walking around here I couldn't help but notice the hip of garbage lying there and kids playing around it. How would you describe the cleanliness of your area?
5. Do you get any refuse bags from the municipality and if so, how often?
6. How often does the municipality collect the garbage?
7. Are you satisfied with this garbage collection as a community member and parent?
8. I see there are loads of garbage bags at the corner (state where there is uncollected garbage and be specific). How long has this garbage been there?
9. Has the municipality explained why the garbage has not been collected for all this time?
10. Has there been any instances that children or any community members' health has been affected by this?
11. What are some of the most prevalent illnesses that you and your family have?
12. What role does this dirt that's lying around have on your health and in that of your family?
13. Is the municipality aware of the health implications that this garbage has on the community members?
14. Has the situation been raised at community meetings and what has been the response from the municipal representatives?
15. Has the community members ever tried to solve this problem on their own?
16. If yes, what was the outcome of that initiative or coping mechanism?

Thank you for your time

Are there any questions that you would perhaps like to ask from me?

Thank you once more for your help. I truly appreciate it.

Mnumzane/Nkosikazi Othandekayo:

Njengoba ngangizisile ekuqaleni lapho sihlalana, nginguSanele Dlamini, umfundi weMasters e-UKZN, Howard College Campus. Ngamanje ngenza isifundo njengengxenywe yenkambo yami yeMasters. Ucwaningo lugxile kwi ***"Izinselele eziza ngokubambezileleka ekuqoqeni izikhwama zemfucumfucu yomphakathi. Ucwaningo lwase-Umlazi (Q-section)"***. Ifuna ngokubanzi ukuhlolisisa impumelelo yokuqoqwa kwemfucuzo engasebenzi kahle empilweni yabahlali baseMlazi (Q-section).

Ngingathanda ukukubonga ngokuphindaphindiwe ngokuvuma ukuhlalanyela kulolu cwaningo futhi ngikukhumbuze ukuthi ukubamba iqhaza kuyokuzithandela. Lokhu kusho ukuthi awuphoqelekele ukuba uhlalanyele ocwaningweni. Ngingathanda futhi ukukukhumbuze ngokucophelela ukuthi ungahoxisa nganoma yisiphi isikhathi uma uzizwa ungasafuni ukuqhubeka njengengxenywe yocwaningo. Njengoba ngangishilo lapho sihlalana, ngeke ngisebenzise amagama akho embikweni wami, futhi angizange ngisebenzise noma yiluphi ulwazi oluzoveza ukuthi ungubani.

Ukuze uqale, ngicela ungitshele ngomusa ngawe nomndeni wakho?

1. Usuhlale isikhathi eside kangakanani wena nomndeni wakho eMlazi?

2. Unabantwana abangaki?

3. Ingabe banabangane abakuzungezile le ndaweni abadlala nabo njalo?

4. Ngesikhathi ngihamba lapha angikwazi ngiqaphele ukuthi udoti muningi le ndaweni ongaqoqiwe futhi izingane zidlala nxazonke. Ungayichaza kanjani inhlanzeko yale ndawo yakho?

5. Uyazithola yini izikhwama zokulahla udoti kumasipala futhi uma kunjalo, kaningi kangakanani?

6. Umasipala uqoqa kaningi kangakanani udoti?

7. Ingabe wenelisekile ngalokhu kuqoqwa kwemfucuza njengelungu lomphakathi nomzali?

8. Ngiyabona kukhona izikhwama zemfucumfucu ekhoneni (khomba lapho kuno doti khona). Usuhlale isikhathi esingakanani lo doti?

9. Ingabe umasipala uchaze ukuthi kungani udoti lungakaqoqwa kuze kube manje?

10. Ingabe kube khona yini izimo ze mpilo lapho izingane noma amalungu omphakathi azithole ekuzo ngenxa ka doti?

11. Yiziphi ezinye zezifo ezivame kakhulu wena nomndeni wakho?

12. Iyiphi indima empilweni yakho nakweyomndeni wakho edlalwa ukuba khona kuka doti ongaqoqwa?

13. Ingabe umasipala uyazi ukuthi imiphumela yempikiswano yilezi zimfucumfucu inamalungu omphakathi?

14. Ingabe isimo sikhulunywe emihlanganweni yomphakathi futhi yimuphi umphendvulo wabameli bamasipala?

15. Ingabe amalungu omphakathi azame ukuxazulula le nkinga ngokwabo?

16. Uma u-yebo, waba yini umphumela walolu hlelo noma indlela yokubhekana nayo?

Siyabonga ngesikhathi sakho

Ingabe kukhona imibuzo ongathanda ukuyibuza kimi?

Siyabonga futhi futhi ngosizo lwakho. Ngiyazisa ngempela.

Appendices

Ifomu lokuvuma:

Sawubona Mhlanganyeli,

Igama lami ngingu **Sanele Dlamini (213551715)**. Ngingofundela iziqu ze-Masters eNyuvesi yaKwaZulu-Natali (Howard College). Isihloko socwaningo lwami sithi: *"Izinselele eziza ngokubambeleleka ekuqoqeni izikhwama zemfucumfucu yomphakathi. Ucwangingo lwase-Umlazi (Q-section)"*. Inhloso yalolu cwangingo iwukuhlola imiphumela emibi kubahlala kanye nendawo yaseMlazi (esigcemeni sakwaQ) ebangwa ukungaphathwa kahle kuka doti kaMasipala. Ngihlose ukuxoxa nawe ukuze ungitshele ngezehlakalo zakho nalokho osoke wakubona mayelana nalolu daba.

Ngicela wazi ukuthi:

- Ulwazi olukhiphayo luzosetshenziselwa ucwangingo lwesikole kuphela.
- Iqhaza lakho lingokuzithandela ngokwakho. Ungakhetha ukuba ingxenye, ukungabi ingxenye kanye nokuyeka ukuba ingxenye yalolu cwangingo. Angeke ujeziswe ngokuthatha lesi sinqumo.
- Imibono yakho izokwethulwa njengo ngaziwa. Kanti futhi negama lakho nobuwena angeke budedelwe nanganoma yiluphi uhlobo kulolu cwangingo.
- Le ngxoxo izothatha imizuzu engamashumi amabili.
- Okuqoshwe lapha nokunye okuhlangene nale ngxoxo kuzogcinwa kwisigudlo esivikelwe ngephasiwedi eyaziwa yimi. Emva kweminyaka emihlanu njengokusho kwemithetho yeNyuvesi izodatshulwa noma ishiswe.
- Uma uvuma ukuba yingxenye ngicela usayine lesibophezelo esihambisana nalesitatimende.

Ngingatholakala uma ufisa ukuxhumana nami: Isikole sakwaSocial Sciences, Nyuvesi yaKwaZulu-Natali, Howard College. Imeyili: saneled5020@gmail.com;
Ucingo: **0714515020**.

Umphathi wami u**Lungile Zondi** otholakala kwiSikole sakwa**Social Sciences**, e**Nyuvesi yakwaZulu-Natali, Howard College, eThekwini**. Imininingwane atholakala kuyo: Imeyili zondil4@ukzn.ac.za, Ucingo: **0312602538**. Imininingwano yeKomidi lwezo Cwaningo: Ikolishi lwaka-Humanities neSikole sakwa-Social Sciences: **Phumelele Ximba**, iNyuvesi yaKwaZulu-Natali, Ihhovisi loCwaningo, Imeyili: ximbap@ukzn.ac.za Ucingo: **0312603587**.

Ngiyabonga ngokubamba iqhaza lakho kulolu cwaningo.

ISIBOPHEZELO

Mina..... (amagama
aphelele) ngalokhu ngiqinisekisa ukuba ngiyaqonda okuqukethwe ilo mbhalo nesimo salolu
cwaningo, futhi ngiyavuma ukuba yingxenywe yalolu cwaningo.

Ngiyaqonda ukuthi ngikhululekile ukuhoxa nanoma yinini kulolu cwaningo uma ngifisa
ukwenze njalo. Ngiyaqonda inhloso yalolu cwaningo. Ngiyavuma ukuba yingxenywe.

Ngiyaqinisekisa/angiqinisekisi ukuba le ngxoxo iqoshwe (uma kusebenza).

UKUSAYINA KWALOYO OBAMBE IQHAZA:

USUKU:



Councillor

Mezzanine Floor Shell House
Cnr. Anton Lembede & Samora Machel Street, Durban, 4001
P O Box 1014, Durban, 4000
Tel: 031 322 7030, Fax: 031 311 3827
www.durban.gov.za

Our Ref: Cllr. A.N. Shabalala

Your Ref: 073 188 7759

Enquires:

To Whom It May Concern

This letter serves to confirm that SANELE DUMINI, A UKZN STUDENT
ID No./D.O.B. 921023 5402 084 Is a known resident member of
UMLAZI [Q-SECTION] AND CAN CONDUCT HIS RESEARCH WITHIN THE AREA.

I appeal to you that she/he be given the following assistance:-

- Birth Certificate ☐
- Identity Document ☐
- Child Support Grant ☐
- Foster Care Grant ☐
- Disability Grant ☐
- Old Age Pension ☐
- Maintenance ☐
- Road Accident Fund ☐
- Bank Account update/opening ☐
- Confirmation of Address ☐
- Other GATEKEEPER APPROVAL
FOR RESEARCH STUDY.....

Your co-operation will be highly appreciated.

Yours faithfully

Councillor A.N. Shabalala
(Ward - 87)
eThekwin Municipality





12 October 2018

Mr Sabele Dlamini 213551715
School of Social Sciences
Howard College Campus

Dear Mr Dlamini

Protocol Reference Number : HSS/1205/018

Project title: The challenges that come with the delay in collecting community garbage bags. The case study of Umlazi (Q-section)

Full Approval – Expedited Application

In response to your application received 16 August 2018, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

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

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

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

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

Yours faithfully

.....
Dr Rosemary Sibanda (Deputy Chair)
Humanities & Social Sciences Research Ethics Committee

/pm

Cc Supervisor: Lungile Zondi
cc Academic Leader Research: Professor Maheshvari Naidu
cc School Administrators: Ms N Radebe

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Founding Campuses: Edgewood Howard College Medical School Pietermaritzburg Westville



Varsity Professional English language Editing Services
For language Editing and Research Support Services for Dissertations, Research Projects and Proposals

23 May 2019

To whom it may concern

RE: DECLARATION AND CONFIRMATION LETTER OF ENGLISH LANGUAGE EDITING SERVICES FOR SANELE DLAMINI (STUDENT NUMBER: 213551715)

Reference is made to the above-mentioned subject matter.

I, Charity Mawire, do hereby confirm that I have carried out English language editing on **Sanele Dlamini (Student Number: 213551715)**'s dissertation titled, **'The challenges that come with the delay in collecting community garbage bags. The case study of Umlazi (Q-section)'** on behalf Varsity Professional English Language Editing Services. I focused on the following, among other areas;

- Spelling, grammar and punctuation checks
- Word usage, tense agreement, parallelisms, conjugations and sentence structure
- Paragraph flow, coherence and organizational consistency
- Check for consistency in reference and citation style

Additional comments were provided to assist with relevant corrections.

For any further information related to the above, please do not hesitate to contact the undersigned.

Sincerely,

Charity Mawire
Consultant, VPELES

Varsity Professional English Language Editing Services
857 Umbilo Road, Durban 4001; South Africa
Date: 23 May2019
Cell: 074 927 4744
Email: languageediting1@gmail.com