

**CONSTRAINTS FACED IN THE IMPLEMENTATION OF THE KEEP ZAMBIA  
CLEAN, GREEN AND HEALTHY CAMPAIGN: THE CASE OF LUSAKA  
DISTRICT**

**by**

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## DECLARATION

I, PETER NYAKALALE, hereby declare that the work presented in this dissertation is the result of my research work and that it has not previously been submitted for a degree, diploma or other qualification at this or another University.

Sign: .....

Date: .....

## APPROVAL

This dissertation of PETER NYAKALALE is approved as fulfilling the partial requirement for the award of Master of Public Administration Degree by the University of Zambia.

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## ABSTRACT

In 2007, the Government of the Republic of Zambia launched the Make Zambia Clean and Healthy campaign in an effort to curb the indiscriminate disposal of waste. Unfortunately, the campaign did not yield the desired results. In 2015, the campaign was revived as the Keep Zambia Clean and Healthy Campaign, with the first Saturday of every month designated as the official Keep Zambia Clean and Healthy Campaign day and a call on all citizens to turn up and clean the city and their surroundings. However, in April 2018, the Zambian government realised that the green aspect was missing hence re-branded the Campaign. The Campaign then became known as the Keep Zambia Clean, Green and Healthy Campaign. Under the re-branded campaign, the citizenry and corporate entities are urged to ensure that they not only clean the city and their surroundings but also plant trees, flowers and green grass in order to maintain a green environment in line with the campaign.

The general objective of this research is to identify constraints faced in the implementation of the Keep Zambia Clean, Green and Healthy Campaign in residential areas in Lusaka district. Specifically, the research aims at identifying constraints that the government and the residents of Lusaka face in the implementation of the Keep Zambia Clean, Green and Healthy Campaign. The research was descriptive in nature and a case study of residential areas in Lusaka district. A mixed methods research design was used to collect both primary and secondary data. The data were collected from a total sample of 128, comprising 120 household heads and eight key informants. Purposive sampling was used to sample key informants while multistage sampling, combining systematic and convenience sampling, was used to select household heads. A questionnaire and interview guides were used to collect the data. Internal consistency was used to measure reliability while content validity was used to measure validity of the data. Statistical Package for Social Sciences (SPSS) was used to analyse quantitative data, while content analysis was used for qualitative data.

The findings show that the government faces numerous constraints in the implementation of this campaign. The Ministry of Local Government whose role is to provide guidance, oversight and funding is unable to do so due to lack of funds. The local council that is supposed to sensitise people in the communities is unable to do so due to lack of funding as well. The situation is made worse by the erratic water supply to most residents, especially in high density areas. The water utility company is unable to pump enough water due to Electricity load shedding while the water supply infrastructure is also inadequate and requires an upgrade. Some households are forced to buy the commodity from neighboring residential areas. Residents, especially from the low income households, also have constraints in paying for their water bills. These constraints have resulted in residential areas not being green, despite the adoption of the Keep Zambia Clean, Green and Healthy Campaign.

### **Keywords in the text are:**

Implementation constraints, Keep Zambia Clean, Green and healthy Campaign, green residential area and Household.

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## ABBREVIATIONS

ECZ	Environmental Council of Zambia
IUCN	International Union for the Conservation of Nature
LCC	Lusaka City Council
LWSC	Lusaka Water and Sewerage Company
MLGH	Ministry of Local Government and Housing
MPA	Master of Public Administration
SPSS	Statistical Package for Social Sciences
UK	United Kingdom
UNDP	United Nation Development Programme
UNZA	University of Zambia
WDC	Ward Development Committee
ZEMA	Zambia Environmental Management Authority
ZESCO	Zambia Electricity Supply Corporation
ZMW	Zambian Kwacha

# CHAPTER 1

## INTRODUCTION

### 1.1 Background

Environmental degradation is one of the major problems affecting the world today. The problem manifests itself in form of indiscriminate disposal of waste and deforestation among others. Environmental degradation has resulted in numerous problems for humans such as toxic substances leaching into soil and water affecting the health of plants, animals and humans, bad smells and numerous diseases such as cholera and typhoid (Jagg, 2018). Several efforts have been made to protect the environment, mainly initiated by developed countries. They include new and advanced technologies to manage waste. In 1995, the United Kingdom (UK) saw the introduction of various interventions which included the introduction of the Make Waste Work Campaign as a strategy for sustainable management of waste. This initiative set targets for waste control, recovery and recycling. The UK Secretary of State for the Environment at one point indicated that the UK could not manage to eliminate waste entirely but efforts were being made to reduce the impact on the environment (Moller and Swaddle, 1997).

For the less developed countries, though recycling has been growing as an industry, the countries are still struggling to find efficient means of waste management from the point of collection to the point of disposal in a bid to preserve the environment. Coupled with the negative attitudes of people towards payment for services such as garbage collection, the problem even becomes more complex. The effects of untreated waste are widespread. Due to indiscriminate disposal of waste and air pollution from human activity, toxins seep into the underground water and this has resulted in contamination. This, in turn, affects trees and grass which are supposed to provide oxygen into the air to maintain the ozone layer. In a survey conducted in Zimbabwe and Botswana, it was revealed that many people did not know that the waste they produced was toxic (Conservation Union, 1994).

Like other countries in the world, environmental degradation has been a growing problem in Zambia. This has manifested itself in the contamination of drinking water

and outbreaks of diarrhea diseases such as cholera. The most commonly contaminated water sources are shallow wells at 91 percent and boreholes at 34percent. Cholera has now become an anticipated disease every rainy season in the country. The recent phenomenon is that the country, as a whole and Lusaka in particular, has experienced cholera even before the onset of the rainy season. On October 6, 2017, an outbreak of cholera was declared in Zambia after laboratory confirmation of *Vibrio cholera* O1, biotype El Tor, and serotype Ogawa from stool specimens from two patients with acute watery diarrhoea. Cholera cases then increased rapidly to approximately 2,000 by early January 2018. Among the suspected cases, 5,414, including 98 deaths, occurred in Lusaka district. As of May 12, 2018, the outbreak had affected three of the 10 provinces in Zambia namely Lusaka, Eastern and Copperbelt provinces with 5,905 suspected cases (Republic of Zambia, 2018).

Thus, a cholera outbreak that began in October 2017 in Zambia had by May 2018 resulted in approximately 5,900 cases and 114 deaths. The disease was mainly concentrated in peri-urban areas of Lusaka, which have limited access to municipal water supplies or sewer systems, and where approximately 60 percent of Lusaka's population resides (Republic of Zambia, 2018).

A two dose oral cholera vaccine campaign was launched in cholera affected areas of Lusaka in January 2018. Approximately one million residents received two doses of oral cholera vaccine, representing approximately 80 percent of the targeted population and 50 percent of Lusaka's population. About 220 randomly selected water sources in areas across Lusaka were tested for cholera of which 31 percent of the water sources were positive. The government made numerous efforts to improve the supply of clean water and administered oral cholera vaccine, but flooding unfortunately led to a resurgence of cholera again (Republic of Zambia, 2018)

The situation is made worse by the huge amounts of uncollected garbage which has been accumulating over the years across the city. According to the Lusaka city council, Lusaka city alone generates about 750 tons of waste daily, of which only 300 to 350 tons of waste is collected every day by the local authority and private companies. This translates into approximately 400 tons of waste uncollected on a

daily basis. As a result, this has led to historical waste piling up continuously. This historical waste eventually makes its way into undesignated dumping sites, streets, water drainages, the central business district and residential areas, including shallow wells in compounds which are among the water sources for residents. This becomes a very big challenge for both the residents and the local authority and leads to diarrhea diseases among residents (Mulunda, 2015).

Deforestation has also been a growing problem in Zambia. The country has been losing its forests at an alarming rate. Between 1990 and 2010, Zambia lost an average of 166,600 hectares of forest per year, translating into 6.3 percent of her forest cover. The major causes of deforestation include indiscriminate cutting down of trees, commercial harvest of timber and conversion of forest land into settlements and agricultural land, including demarcating and encroachment of forest areas by local people. The situation has been made worse by the high demand for forest products such as charcoal, especially in highly populated urban areas of Central, Copperbelt and Lusaka provinces of Zambia due to rural urban migration pushing up urban population. The country's rate of deforestation is now estimated to be between 250,000 to 300,000 hectares of land per year. It must be noted that deforestation remains a big threat to the country's ecosystem and species diversity causing habitat destruction, species composition changes and disruption of the food chain to mention but a few. Forests are important as they provide habitation for wildlife; prevent soil erosion and flooding and being recharge areas for water systems. Forests also help prevent climate change through carbon sequestration as they play the role of being carbon sinks thereby decreasing the amount of carbon dioxide in the atmosphere and consequently reducing the effects of global warming (Musambachime, 2013).

The importance of forests cannot be overemphasized. According to Mwale (2011), vegetation adds colour and scenic beauty to a city and further provides a place for people to relax calmly whose effects heal and soothe the body and soul. Unfortunately, in some parts of Zambia, trees and grass have continued to be destroyed and are slowly but surely diminishing due to increased human activity in the name of economic and social development such as clearing land for domestic, agricultural and industrial use.

In 2007, the Government of the Republic of Zambia launched the Make Zambia Clean and Healthy campaign in an effort to curb the indiscriminate disposal of waste. Unfortunately, the campaign and calls by successive leaders for people to maintain a clean environment did not yield the desired outcomes. The general cleanliness of most premises, residencies and community surroundings still remained a challenge, posing a health risk on the Zambian citizenry. This challenge was compounded by indiscriminate waste disposal. This was made worse by the failure by some companies in the private sector who had continued to create products without taking responsibility to sensitise their customers on appropriate means of waste disposal, particularly packaging materials. This had impacted negatively on most local authorities who had not been able to effectively collect and manage waste due to lack of capacity to do so (Lungu, 2018).

In 2015, the programme was later revived as the Keep Zambia Clean and Healthy Campaign. This programme was aimed at making the cities, towns, villages, public institutions and public places clean in order to improve the health standards of all the people. Government, this time designated the first Saturday of every month as the official Keep Zambia Clean and Healthy Campaign day. According to the then Minister of Local Government, the decision to revisit and revive the Keep Zambia Clean and Healthy Campaign was aimed at improving the health standards of the people by encouraging a clean environment (Republic of Zambia, 2018).

However, in April 2018, the Zambian government re-branded the Keep Zambia Clean and Healthy Campaign after realising that even though efforts were being made by the local council and the citizenry to clean the environment, the green aspect was missing. The green aspect was introduced as a way of preserving, sustaining and mitigating possible harm to the environment. The re-branded Keep Zambia Clean and Healthy Campaign then became known as the keep Zambia Clean, Green and Healthy Campaign. Under the re-branded campaign, the citizenry and corporate entities are urged to ensure that they plant trees and flowers, as well as maintain green grass in their surroundings and also avoid the indiscriminate cutting down of trees, as doing so is unhealthy. Corporate entities are also encouraged to adopt certain portions of land or space in towns to maintain regularly by watering and keeping them green, as part of their corporate social responsibility. On the other hand, the local council is expected to sensitise the residents on the importance of the

campaign while the water utility company is to ensure provision of water to residents to actualise the Keep Zambia Clean, Green and Healthy Campaign. This is expected not only to preserve the environment and make the environment clean but also to make it green and look beautiful. Similarly, residents in various cities in Zambia are urged to maintain flowers and green grass on their yards so as to have green residential areas and a beautiful country (Lungu, 2018).

## **1.2 Statement of the Problem**

Despite the adoption of the Keep Zambia Clean, Green and Healthy Campaign, Mwale (2011) indicates that in some parts of Zambia, trees are slowly being destroyed due to human activity. Thus, trees in various sectors of the country, including residential areas are diminishing due to increased activities for socio-economic development such as the clearing of land for agricultural, domestic and industrial use. The demand and urgent need for accelerated development has also led to massive deforestation to pave way for infrastructure development such as building of roads, houses and other structures in Zambia. In addition, despite the re-branding of the Keep Zambia Clean, Green and Healthy Campaign, various premises in Zambia, including residential areas, are still characterised by dry vegetation. Sensitisation of the residents on the importance of the campaign by the local council has been absent while claims of inadequate water supply to residents by the water utility company have persisted especially in Lusaka district. This situation, therefore, shows that there are constraints faced in the implementation of the Keep Zambia Clean, Green and Healthy Campaign.

## **1.3 Research Objectives**

### **1.3.1. General Objective**

The general objective of the research is to identify constraints faced in the implementation of the Keep Zambia Clean, Green and Healthy Campaign in residential areas in Lusaka District.

### **1.3.2. Specific Objectives**

The specific objectives of the research are as follows:

- (i) To identify constraints faced by the Lusaka District Council in the process of implementing the Keep Zambia Clean, Green and Healthy Campaign in residential areas.
- (ii) To identify constraints faced by residents in keeping their premises green in Lusaka district.

## **1.4. Research Questions**

### **1.4.1. General Question**

The general question of the research is;

What are the constraints faced in the implementation of the Keep Zambia Clean, Green and Healthy Campaign in residential premises in Lusaka District?

### **1.4.2. Specific Questions**

The specific questions of the research are as follows;

- (i) What are the constraints faced by the Lusaka City Council in the process of implementing the Keep Zambia Clean, Green and Healthy Campaign in residential areas?
- (ii) What are the constraints faced by residents Lusaka City to keep their premises green in residential areas?

## **1.5. Significance of the Research**

The significance of this research is that it has provided information on the constraints faced in the implementation of the Keep Zambia Clean, Green and Healthy Campaign in residential areas. The Keep Zambia Clean, Green and Healthy Campaign has been chosen because it affects the wellbeing of the people. The subject of green residential areas has been particularly chosen because it helps

maintain the ozone layer. This is so because if not done, there is a risk of worsening the effects of climate change. Further, effects of climate change can spell disaster for the country, as they have the potential to negatively affect the Zambian economy (United Nations Development Programme [UNDP], 2010).

The beneficiaries of this research include the Central Government, the Ministry of local government and residents. This is so because the findings can be used to develop strategies that can be used to improve on the Keep Zambia Clean, Green and Healthy Campaign and subsequently make the country green and beautiful for all. Further, the information provided can also be used by stakeholders such as the local authorities to come up with strategies and policies towards improving the management of green residential areas. The residents would also benefit from this research by acquiring knowledge on the importance of green residential areas. The residents would also benefit from improved service delivery in form of sensitisation and water supply from the Central Government through the Lusaka City Council and the Lusaka Water and Sewerage Company respectively.

## **1.6. Conceptual Framework**

The presentation of the conceptual framework is in two parts. These are definition of key concepts and the conceptual framework guiding the research.

### **1.6.1. Definition of key Concepts and terminologies**

The key concepts and terminologies in this research are activities that are undertaken by government institutions and residents in the process of keeping residential areas green. These include:

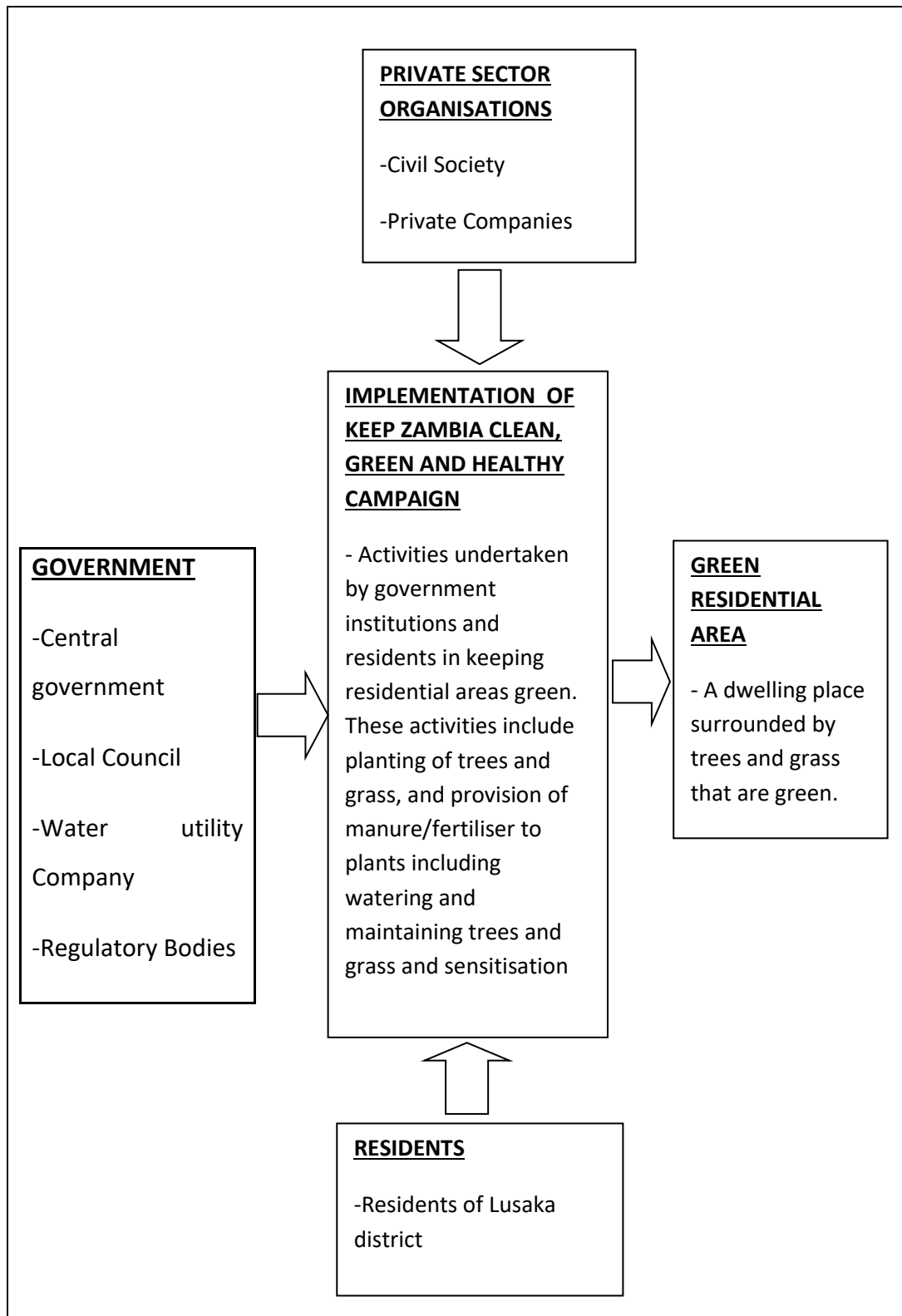
1. **Keep Zambia Clean, Green and Healthy Campaign:** A programme or set of activities undertaken by the government to make premises clean, green and healthy for habitation.
2. **Implementation:** Activities that are undertaken to ensure that premises are clean, green and healthy for habitation.

3. **Constraints:** Resource problems that hinder the smooth implementation of the Keep Zambia Clean, Green and Healthy Campaign such as lack of finances, human resource, materials, equipment and information.
4. **Green Residential Area:** A dwelling place surrounded by trees and grass that are green.
5. **Green and Healthy Campaign:** Making cities, towns, villages, public institutions and places clean and green to improve the health standards of the people.

The meaning and relationship among these concepts and terminologies are presented in figure 1.1.

## 1.6.2. Model of the Conceptual Framework

Figure 1.1. Model of the Conceptual Framework



Source: Authors own illustration

This conceptual framework is based on the assumption of the governance network theory. According to Koppenjan and Klijn (2012), the governance network theory involves complexities, interdependence and dynamics in public problem solving and service delivery. In this research, the implementation of the Keep Zambia Clean, Green and Healthy campaign is expected to be complex and managed by various actors who collaborate with each other. These actors include the central and local governments and residents.

Koppenjan and Klijn (2012), further argue that a governance network adopts an interorganisational perspective. It assumes that organisations need resources from other organisations for their survival and, therefore, interact with other organisations to form a network. These networks are regarded as a vehicle for service delivery and are used in public administration to solve public policy problems. In this research, the Keep Zambia Clean, Green and Healthy Campaign is managed from an interorganisational perspective. In this case, both government institutions and the residents come together to contribute their expertise and resources and interact with each other, thereby forming a network as a vehicle for the implementation of the Keep Zambia Clean, Green and Healthy Campaign in residential areas.

Koppenjan and Klijn (2012), indicate that a governance network is characterised by actors, interactions, complexity, institutional features and network management. In their interactions, the actors depend on each other in order to achieve their intended objective. Interaction and complexity come in as a result of the interdependencies between actors and their perceptions and strategies that they rely on. In this research, the Keep Zambia Clean, Green and Healthy Campaign is managed by a network of actors. These actors include the central government, private companies, local authorities and regulatory bodies and the citizenry. For the campaign to be successful, it is expected that these actors interact and work together towards a common goal.

The interaction between actors then leads to institutionalisation of relationships between actors thereby forming patterns of social relations and rules. In turn, institutional relations lead to the emergence of rules that regulate the behaviour of actors in networks, thereby influencing performance. These rules are then used to manage the interactions in the network. This is what Koppenjan and Klijn (2012)

refer to as network management. In this research, it is expected that these actors work together, thereby forming social patterns that lead to formulation of rules. These rules are expected to regulate the behaviour of all the actors as they implement the Keep Zambia Clean, Green and Healthy Campaign.

Mayntz (1993) adds that a network, as a form of governance, is characterised by a number of autonomous actors who have the capability to pursue collective goals through deliberate coordinated actions. This means that a new form of governance develops which is more than the sum of actors and their links and also more than a combination of elements of hierarchy and markets. A network is also conceived and interpreted as a discrete form of governance. In this research, the autonomous actors include the central government, private companies, local authorities and the citizenry. They are autonomous, as they are independent institutions coming together for a common goal. Each autonomous actor is expected to have a role to play which is vital to the achievement of collective goals and consequently to the success of the campaign.

Marin and Mayntz (1991) describe a network as a mode of conflict resolution, basis of legitimacy, general orientation and incentive for the actors. In this research, it is expected that the network formed to implement the Keep Zambia Clean, Green and Healthy Campaign is also a mode of conflict resolution among actors, as well as a basis for legitimising their actions and incentives for all the actors in the implementation of the Keep Zambia Clean, Green and Healthy Campaign.

However, Bortel and Mullins (2009) argue that governance networks have several problems. Among the numerous problems is the fact that the appearance of interdependent networks in most cases masks the reality of continued state dominance and control on the whole network. This culminates into inequalities of power within the network and a hierarchical relationship with mainly one dominant actor which is the state. In this research, it is expected that the government will dominate and control the whole process of implementing the Keep Zambia Clean, Green and Healthy Campaign in residential areas. This is expected to lead to power inequalities and a hierarchy where the government will be on top of the hierarchy controlling the whole process.

Madimutsa and Pretorius (2018) assert that governance networks can also be captured by actors in the private sector whose desire is to save costs and increase profit. In this research, it is expected that actors in the private sector such as private companies will attempt to capture the process of implementing the Keep Zambia Clean, Green and Healthy Campaign in order to save costs and increase their profits. This creates constraints for the implementation of the campaign. These constraints can be viewed in terms of resource problems such as lack of finances, human resource, materials, equipment and information.

Davies (2002) also contends that the state still remains dominant regardless of the measures put in place. He adds that networks can better be described as partnerships, with asymmetric power relations which favour the state. He further adds that this is despite wide spread appeals in different governance systems for the adoption of networks between the public and private sectors. In this research, the implementation of the Keep Zambia Clean, Green and Healthy Campaign is expected to be captured by the government as a dominant actor, regardless of the measures or rules put up in order to foster their agenda. The government is expected to do everything possible to promote their own interest and not that of other actors in the network.

Davies (2002) further argues that in many cases these partnerships are strongly controlled by the state through their officials who act on personal interest, hence state capture. The above is fuelled by the desire by state officials to engage in projects which they would benefit from and not necessarily what would benefit the citizenry. This is made worse by the government officials' consideration of their personal benefit and interest. In this research, it is expected that the government officials involved in the implementation of the Keep Zambia Clean, Green and Healthy campaign will implement those projects from which they will personally benefit as individuals. As a result, residential areas will not have trees and grass that are green.

The above shows that the participation of citizens in the network will mainly benefit the actors in privileged positions in government. Thus, the views, suggestions and desires of the people in the Keep Zambia Clean, Green and Healthy Campaign are of no effect. Ultimately, despite resources being applied in the implementation of the Keep Zambia Clean, Green and Healthy Campaign, residential areas are likely to remain dry.

## **1.7. Structure of the Dissertation**

This dissertation is divided into six chapters. Chapter one is the introduction and covers the background of the research, the statement of the problem, the general objectives, the specific objectives, the research questions, the significance of the research, the conceptual framework and finally ends with a presentation of the structure of the dissertation. Chapter two is literature review. It presents literature on the management of green residential areas.

Chapter three presents the methodology used in this research. In so doing, the chapter covers the type of research, research site, research design, sources of data, sample size, sampling methods, methods of data collection, reliability of data, validity of data, methods of data analysis, research ethics applied when conducting the research and the limitations of the research.

Chapter four presents the constraints faced by the government in the process of implementing the keep Zambia Clean, Green and Healthy Campaign in residential areas. It discusses the constraints faced by three categories of institutions. These are Ministry of Local Government, the Lusaka City Council and the Water Utility Company.

Chapter five looks at the constraints faced by the residents of Lusaka city in the implementation of the Keep Zambia Clean, Green and Healthy Campaign. The chapter focuses on the constraints of water supply faced by the residents of Lusaka and the implementation of the Keep Zambia Clean, Green and Healthy Campaign. The chapter then discusses the availability of trees and grass in residential areas of Lusaka district.

The last chapter covers the conclusions and recommendations of this dissertation. It outlines the conclusions made and recommendations of this dissertation which include policy recommendations and areas for future research.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1. Introduction.

This chapter reviews literature on management of green residential areas. The chapter begins by reviewing literature on efforts made to ensure the management and maintenance of green residential areas in Zambia, other countries in Africa, other developing countries outside the African continent and the developed world. Finally a conclusion is presented.

#### 2.2. Literature on the management of Green Residential Area

##### 2.2.1. Literature on Zambia

To start with, it is important to mention that there is very little written about the management of green residential areas in Zambia. The only literature available is by Mutinta and Banda (2017) who conducted a study on *Awareness, Attitudes and Perception of Green Building Practices and Principles in the Zambian Construction Industry*. The study focused on investigating the level of awareness, attitudes and perceptions of green building practices amongst participants in a green buildings housing project in North Western and Lusaka provinces of Zambia. The findings suggest that those who took part in sustainability projects showed greater awareness and knowledge than those who did not. Further, professionals and experts had attained vital knowledge on green housing projects from workshops, the media, green building demonstration houses and institutions of higher learning, while the artisans had also attained the much needed knowledge from previous projects done on renewable energy. The results suggest that professionals who were stationed on site demonstrated greater awareness than the artisans who spent an equal amount of time on the same project. This knowledge influenced their level of awareness and perceptions. The artisans who had worked on previous green building projects had also gained significant knowledge. However, knowledge gained was dependent on educational and literacy levels. The study further asserts that both professionals and artisans agree that green building materials could only be affordable if they were locally produced. Furthermore, that training in green building practices should, therefore, be introduced in institutions of higher learning and trade schools. From

this study, we learn that if trained in such a project, both Zambian professional and artisans can acquire the much needed knowledge to carry on with the construction of green houses. Further, the materials required for the project can not only be sourced locally but also affordable to the local people. However, the omission of the study is that it does not look at the planting of trees and grass in order to keep the residential areas green. The study concentrated on the construction of a house as a structure, neglecting the surrounding area in the form of green trees and grass.

### **2.2.2 Literature on other African countries**

Cilliers and Sarel (2015) conducted a study on the subject *from green to gold: A South African example of valuing urban green spaces in some residential areas in Potchefstroom*. The study focused on the increasing need to value green spaces within residential areas, especially in developing countries. Five sites in the more wealthy residential areas in Potchefstroom were selected to investigate the impact of proximity to green spaces in relation to residential property prices. The study found that generally proximity to green space is a key factor in increased residential value. However, the study also concluded that there are some contradicting results which tell that the value of green spaces differ between countries and cities. Further, that dependant on other factors, residential properties located adjacent to green spaces can have lower price per square meter than properties located further away. An example of the unique challenges and characteristics of South African neighbourhoods was given where it was argued that safety, along with availability of private green spaces in the more affluent urban areas, were the greatest reasons for contradicting results. The research further identified scale as a core factor when determining the value of green spaces. The Potchefstroom case study showed a negative economic impact of green spaces in terms of site-scale, but a positive economic impact in terms of neighbourhood scale. From this study we learn that the value of a residential area increases when there is greenery dependant on the type of neighbourhood area. Thus, in order to increase the value of most residential areas in Zambia, there is need to plant trees and grass to improve the greenery. We also learn from the increase in value that people generally would prefer green residential areas. However, the shortfall of this study is that it was done in South Africa whose economy and crime levels differ from Zambia. The study also does not bring out the

constraints faced by both the government and residents in the maintenance of the green spaces which is vital in this research.

Mensah (2014) also conducted a study on *urban green spaces in Africa. Nature and Challenges*. The study focused on giving a broad discussion on the nature and challenges behind the deterioration and poor management of urban green spaces in Africa. The study adopted the systematic review approach and used publications that centred on urban green spaces in African sub-region. The study found that in Africa the nature and distribution of green spaces are influenced by ecological zones and climate conditions. The study also found that among the constraints that hindered the development of green space in Africa include rapid urbanisation, corruption, low resource base of institutions on green spaces, lack of priority to green spaces, uncooperative attitude of the local people and political instability. To address these constraints, the study recommended that there was need for joint and committed efforts by national governments, city authorities and the local people to preserve these green spaces. Further, that green spaces should be treated as among the top priorities of the development agenda of urban planning authorities and other institutions managing green spaces and that they needed to be well resourced to go about their activities as expected of them. From this study, we learn that there are numerous constraints that countries face in the management of green spaces. Among them is urbanisation where green spaces have to be sacrificed to find space for the increasing urban population. We also learn that corruption, lack of adequate resources in institutions responsible for the management of green spaces, political instability and uncooperative attitude of the local people all have a negative effect on the preservation of green spaces in Africa. However, the limitation of the study is that it is too general, as it does not specifically look at the management of green spaces in residential areas. Further, Africa, as a continent, has a number of countries with different economic, social and cultural standings, hence the study cannot be generalised to Zambia.

Gaspard and Mukanyandwi (2014) also looked at *the use of GIS technologies in analysing challenges and opportunities for the management of urban green spaces in Kigali, Rwanda*. The study focused on assessing the challenges and opportunities for managing green spaces of the urban part of Kigali City, using Geographical

Information System (GIS) to find out the green space classes and their threats. The study found that the management of green spaces in Kigali City is still facing some challenges that the city authorities are trying to address. The challenges include lack of policies on green space management, low level of awareness among local people, rural-urban migration leading to inappropriate human settlements in some areas of the city, waste management challenges and pollution. From this study we learn that technology, such as the GIS, is a vital tool that can be used to analyse challenges and opportunities in the management of green spaces. However, what is absent in this study is that it does not look at the challenges of keeping residential areas green, including planting of trees and grass. Further, the study was done in Rwanda, a country that has its economic, cultural, social and climatic conditions different from Zambia.

### **2.2.3. Literature on developing countries outside Africa**

Johansson and Smars (2015) looked at a study titled *Towards Sustainable Green Infrastructure in Xi'an, China*. The focus was to study the green infrastructure in the city of Xi'an in China on different scales ranging from the overall plan to intermediate neighbourhood and green areas of a specific site. The results of this study were to be used as a tool for suggesting a strategy of sustainable green infrastructure development in Xi'an which also was to be applicable to other cities in China. The study found that Public parks were the biggest contributor to the green infrastructure in Xi'an, as they covered large areas, though not connected to each other or to other elements of green infrastructure. The parks also contained a lot of trees and other flowering species, beneficial for biodiversity, while main roads consisted of greenery, with trees, shrubs and ground cover and vegetation between road lanes. The study also found that Lawns and flowerbeds were common in Xi'an especially in green areas inside neighbourhoods and in the front of historical monuments, campuses and governmental institutions. From this study, we learn that green areas comprising trees and green grass are possible in both residential and public places. What is required is basically a strategic plan for a green sustainable infrastructure development for Lusaka city. However, the limitation of this study is that it was done in china which has different economic resources. Even though china

is a developing country, economically it is far better than Zambia and may have more resources and expertise to do this. Further the weather conditions and culture of the two countries differ, hence the results cannot be generalised to Zambia. The research did not also look at the constraints faced in the maintenance of the green residential areas.

Wendel et al (2012) conducted a study on *accessibility and usability. Green spaces preference, perceptions and barriers in a rapidly urbanising city in Latin America*. The study focused on evaluating green spaces situated within cultural and geographical contexts. The study also sought to determine whether certain sectors of the urban population have access to green spaces in close proximity to their homes, municipal urban parks and neighbourhood parks. In doing so, green space usability was explored by examining preferences, perceptions and barriers to parks and urban green space using on-site individual semi-structured interviews and systematic observations of behaviour among a purposive sample of urban residents. The study found that urban parks in Santa Cruz, Bolivia, reduce access barriers for residents by providing more desirable and safer public spaces for leisure and recreation. The study also found that there were gender disparities in terms of usage and unequal distribution of larger and more desirable green spaces throughout sectors of the city, resulting in some residents not benefiting. The findings also highlight the potential importance of designing green spaces to serve as equalisers in urban areas characterised by social and spatial inequalities. From this study, we learn that urban public parks provide more desirable and safer public green spaces for leisure and recreation for the residents of a given city, especially those who have no access to such. We also learn that green spaces are generally desirable for the public. However, the untouches of this study is that it has concentrated on parks which are generally public places, leaving out residential area. The study does not also look at the constraints faced in keeping residential areas green which is the main aspect of this research.

Tan et al (2019) also looked at *designing urban green spaces for older adults in Asian cities*. The study mainly focused on the necessity of designing urban green spaces for the promotion of healthy ageing to enhance preventive healthcare and relieve medical burdens. In doing so, the study conducted interviews using a

questionnaire with a sample of 326 participants in the city of Hong Kong in china and Tainan in Taiwan region. The study found that the duration of visits to urban green spaces was positively associated with mental health and social functioning and that such a correlation was especially significant in women and those with low social support and capital. A positive relationship was also found between the physical health and perceived safety in urban green spaces. Furthermore, the colour of the plants and maintenance condition of green spaces were significant aspects affecting assessment of the attractive quality of a given area or place. The study also found that planning and designing urban green spaces should take into consideration certain characteristics that would improve accessibility and appealing quality which are preferred by older adults. From this study, we learn that urban green spaces have a positive effect on people's mental and social health, especially in women and the poor in society. We also learn that there is a positive correlation between physical health and perceived safety in urban green spaces. However, the study has not concentrated on the constraints faced in keeping residential areas green which are vital for this research.

#### **2.2.4 Literature on developed countries**

Lindgren (2010) conducted a study on *Green Space Management & Residents' Benefits, a Study of Swedish Rental Multi-Family Housing Areas in Sweden*. The study focused on Management of green spaces in rental multi-family housing areas in a Swedish context and the benefits of maintaining green residential spaces with the residents as the main users of the green spaces. The findings of the study were that there was a general tendency to describe cleanliness and order as an important part of well-kept green spaces. The study established that yards and plantings that were described as being in order for being clean, fresh and tidy were also regarded to be well-kept. Further, that several different elements were associated with order and disorder, such as litter and the character of the vegetation. Most residents thought that shrubs should be pruned to some extent to be well-kept. Furthermore, residents put more emphasis on upkeep of vegetation by pruning shrubs which was understood as imposing order. On the other hand free-growing and unpruned shrubs were seen as litter or bush. From this study, we learn that yards and planting that are clean, tidy

and fresh are described and seen to be in order. Further, that for the planting and maintenance of green trees and grass to be successful, there is need for mind-set change among the people to begin to see disorder and dirty in littered, dry and unpruned shrubs in places. However, one element unique in this research is that it was done in a developed country with all the resources required for the management of green places, unlike Zambia. The literacy, as well as the income levels of the people of the two countries, are also different and so cannot be generalised to Zambia.

Weimann (2017) also looked at the *Green neighbourhood environments Implications for health promotion, physical activity and well-being in Sweden*. The overall aim of this study was to establish how green neighbourhoods are related to physical activity, health and well-being and better understand the implications for public health. The findings of the study were that neighbourhood greenness was weakly associated with general health, but not mental health, and a beneficial effect of increased neighbourhood greenness on general health was indicated only in the most vulnerable subgroup. The study also found that access to high quality green areas promotes physical activity only among individuals who perceive their neighbourhood as being safe. In other words, people with access to green areas which were considered safe engaged in more physical exercises which was good for their health. From this study, we learn that there is need to consider the green neighbourhood from multiple perspectives when planning cities as it promotes the desire for physical exercises vital for good health in residents. However, the shortfall of this study is that it does not look at the constraints faced in the maintenance of the same green neighbourhood, especially the planting and watering of trees and grass.

Mohamad et al (2015) conducted a study on *factors influencing buyers to purchase green residential property in Malaysia*. The study focused on the residents of Ken Rimba Legian as a case study to determine the factors that influence buyers in purchasing green residential properties. The findings of the study were that people are aware of the advantages offered by the green residential property and so were buying such properties owing to advantageous features that come with the green building concept which helps to conserve nature. The study also found that the most influential factor that led to most people buying green residential areas was the

landscape design. According to the study, most people enjoy living in an environment that is visually stimulating, offering a comfortable environment with a nice view of the land scape. The study also indicates that other factors that led to most people buying green residential areas include access to green space, areas with good land scape design and eco-mobility factor. From this study we learn that most people are alive to the advantages of the greenery and that as a result people prefer to buy houses with green and beautiful land scape. This means that green spaces in residential premises increase the value and demand for residential premises. However, this study does not talk about the constraints faced in the maintenance of the same green residential areas. The study only focused on the factors that influence buyers to buy residential properties, neglecting the aspect of the constraints faced in the maintenance of the same green residential areas.

Baycan and Nijkamp (2009) conducted a study on *planning and management of urban green spaces in Europe: comparative analysis*. The study focused on analysing and comparison on the urban green space planning and management experiences of 23 European cities in order to understand the critical factors behind their success and failure to obtain strategic and policy relevant information on the key features of urban green provisions and maintenance. The study found that despite a variety in urban green space policies in cities in Europe, success in planning and management of urban green spaces is dependent on four attributes namely the share of green space in urban land use, changes in those shares overtime, intensity of involvement of city administration authorities and the degree of citizen participation. From this study, we learn that the success of any city in maintaining urban green spaces was dependant on proper planning and management and also the involvement of the local authority. Further, we also learn that there is need for the citizen participation in programmes which involve the maintenance of green spaces. The weakness of this study is that it does not bring out constraints faced in maintaining green spaces which this research intends to undertake.

Feltynowski and strohbach (2018) conducted a study on *challenges of urban green space management in the face of using inadequate data in Poland*. The focus of the study was to find out whether effective urban planning and urban green space

management required proper data on urban green spaces. Further, the study sought to find out whether the potential of urban green spaces to provide benefits to urban inhabitants depends on whether they are managed as a comprehensive system as urban green infrastructure or as isolated islands falling under the responsibility of different stakeholders. The study found that broader institutional failures were related to problems in urban green infrastructure planning, management and research, including lack of awareness of green space quality and benefits and the related political disregard for urban green spaces. The study also found that an understanding of green space data sources is necessary in urban planning and especially in planning urban green infrastructure. From this study we learn that availability of data is vital in the planning and management of green spaces. The untreated part of this study is that it does not specifically look at the constraints faced in keeping residential areas green. Further, the study was done in Poland which is a developed country, as compared to Zambia, and so the findings cannot be generalised to Zambia.

### **2.3. Conclusion**

The reviewed literature shows that a green residential area is possible and that the value of a particular residential area increases with good greenery and good landscape. The literature also reveals that there is need to consider the green residential areas from multiple perspectives when diversifying and planning cities, as it promotes the desire for physical exercises vital for good health. Further, the literature emphasises the need for enforcement of laws for them to be effective. The literature also shows that among the challenges faced in maintaining green residential areas is lack of policies on green space management, low level of awareness among local people, rural urban migration leading to inappropriate human settlements and shanti compounds, waste management challenges and pollution. Further, the literature has also pointed out corruption in responsible institution political instability and uncooperative attitude of the local people, as challenges to the management of green spaces.

However, despite the literature covering management of green residential areas, it is not comprehensive. The reviewed literature does not specify the constraints faced by specific categories of stakeholders in the process of promoting green residential areas, especially in Africa. This research intends to fill this gap by focusing on the implementation of the Keep Zambia Clean, Green and Healthy Campaign in residential areas in Lusaka district.

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **3.1. Introduction**

This chapter presents the methodology that was used to conduct this research. The chapter specifically looks at the type of research, research site, and research design, sources of data, sample size, sampling methods, data collection methods and reliability of data. This chapter will also look at the validity of data, data analysis techniques, ethics that were applied when conducting the research and limitations of the research.

#### **3.2. Type of Research**

The type of research that was conducted was viewed from three angles. The first angle is based on the purpose of the research. In this regard, the research was a descriptive research. A descriptive research involves collecting background information and gaining insight into the phenomenon under investigation (Glass and Hopkins, 1984). This type of research was chosen because the research attempted to gain insight into the constraints faced in the implementation of the Keep Zambia Clean, Green and Healthy Campaign in keeping residential areas green in Lusaka district.

The second angle was based on the number of cases to be investigated. In this regard, the research was a case study of residential areas in Lusaka district. According to Madimutsa (2019), a case study not only allows the researcher to collect detailed information on the behaviour of a social unit such as a person, institution or community but also helps in understanding the history of a particular social unit and its interaction with the environment. He further adds that a case study helps the researcher to understand the challenges faced by the social unit and make recommendations on how to deal with them. Therefore, a case study was ideal as it helped to collect detailed information about residential areas in Lusaka district and how the community interacts with the Keep Zambia Clean, Green and Healthy Campaign and constraints faced by residents in maintaining their residential areas green. Furthermore, this case study has helped to make recommendations on how to

deal with the constraints faced in the process of implementing the Keep Zambia Clean, Green and Healthy Campaign.

The third angle was based on the time frame within which the research was conducted. In this regard, it was a one-time research. A one-time research is a research which is conducted at a single point in time. The point in time at which this research was conducted was between 01<sup>th</sup> July and 15<sup>th</sup> October, 2019. The time frame is within the one year given by the University of Zambia to conduct the research.

### **3.3. Research Site**

This research was confined to Lusaka district. Lusaka district was chosen as it is not only the capital city but also the centre of both commerce and government in Zambia. Lusaka district is politically divided into seven constituencies, namely; Chawama, Kabwata, Kanyama, Lusaka Central, Mandevu, Matero and Munali. Four of the seven constituencies namely Chawama, Kanyama, Mandevu and Matero comprise mainly unplanned settlements with high population density. Each constituency is also divided into wards politically headed by civic leaders. Lusaka district has a total of 33 wards (Central Statistical Office [CSO], 2013). Each ward is then divided into zones. The population of Lusaka district is approximately 1,267,440; the only city in Zambia with more than one million people with a total area of 418km squared (United Nations [UN], 2017). With this high population, coupled with the mushrooming of unplanned settlements and increased economic activity, the need to take care of residential areas is very high due to increased human activity.

### **3.4. Research Design**

The research used a mixed methods design comprised of both qualitative and quantitative designs. A mixed method research design is ideal because it mixes both qualitative and quantitative research designs in collecting and analysing data (Saunders, Lewis and Thornhill, 2012). The use of the mixed methods design helped to collect data from various stakeholders involved in the implementation of the Keep Zambia Clean, Green and Healthy Campaign in residential areas. Through the

qualitative design, in-depth information on the constraints faced by government officials in the process of implementing the Keep Zambia Clean, Green and Healthy Campaign in residential areas was collected from key informants. On the other hand, through the quantitative design, statistical data on the constraints faced by residents in keeping their premises green in line with the Keep Zambia Clean, Green and Healthy Campaign was collected. This is in line with the assumptions of the governance network theory upon which the conceptual framework of this research is based. According to Koppenjan and Klijn (2012), governance issues are characterised by a variety of actors who are dependent on each other to achieve their intended objectives. This kind of interdependence among network actors is expected to take place in the process of implementing the Keep Zambia Clean, Green and Healthy Campaign in residential areas. The actors in the implementation of this campaign in residential areas include government officials and the residents. The reason for adopting the mixed methods design is that a combination of qualitative and quantitative designs helps to complement the shortfalls attributed to each design in data collection, analysis and reporting (Saunders, Lewis and Thornhill, 2012).

### **3.5. Sources of Data**

The research relied on data from two sources, namely, primary data and secondary data. The sources of this type of data in this study were officials from the Ministry of Local Government, Lusaka City Council, Lusaka Water and Sewerage Company and residents of Lusaka district who have a stake in the Keep Zambia Clean, Green and Healthy Campaign. Apart from primary data, the research also relied on secondary data. This type of data was collected in order to have a detailed understanding of what has been written on the research topic as regards the constraints and successes. This data was used to identify the research gap and provide a basis of comparison on what had been documented with data that was to be collected from the field.

### **3.6. Sample Size**

Primary data in this study was collected from a sample of 128. Since key informants were used to provide qualitative data, a sample of eight key informants was considered to be large enough to provide valuable insights into the constraints faced by government institutions in the process of implementing the Keep Zambia Clean, Green and Healthy Campaign in residential areas. The sample consisted of one

official from the Ministry of Local Government, one official from Lusaka City Council and six officials from Lusaka Water and Sewerage Company. To be specific, the eight key informants comprised of one Assistant Director from Ministry of Local Government and one Cleansing Superintendent-Waste Management Unit from Lusaka City Council. Other officials from the Lusaka Water and Sewerage Company were one Billing Officer, one Chief Cashier, one Plumber, two Cashiers and one Assistant Accountant.

There were also 120 heads of households from three residential areas. The consideration of the number of household heads was guided by the central limit theory which asserts that a randomly selected sample of 30 or more elements has statistics that are closely similar to the population from which the sample is drawn (Msabila and Nalaila, 2013). As already mentioned, the 120 household heads were selected from three residential areas namely Kabulonga residential area, Chilenje Township and Mtendere compound. Kabulonga residential area represented low density areas from which 24 respondents were drawn; Chilenje Township represented medium density areas from which 43 respondents were drawn while Mtendere compound represented high density areas from which 53 respondents were drawn.

Considering the sampling frame for the household heads, the population size of household heads in Lusaka district was unknown. This is because such a list does not exist. This situation is worsened by the existence of unplanned settlements where the numbering of houses is poorly done or not even there. As such, multi stage sampling was adopted to select household heads.

### **3.7. Sampling Methods**

This research used a multi-stage sampling method to draw a sample from residential areas. This sampling method was chosen because a complete list of members of the population in Lusaka is not available. Additionally, it is ideal for studies that cover a wide geographical area. In the first stage, the residential areas in Lusaka district were stratified into low, medium and high density areas. One residential area was chosen from each category using simple random sampling method from which samples were drawn. This involved dividing the residential areas into several strata and then used simple random sampling method, particularly the lottery technique, to select the

residential areas to be in the sample. This was done by writing names of residential areas on pieces of paper, putting them in a box, shuffling and then pick the sample.

In the second stage, the sample of 120 households was divided as follows: 53 households in high density areas, 43 households in medium density areas and 24 households in low density areas. The actual household was selected by systematic sampling method by randomly selecting the first unit and the remaining units were selected at fixed intervals. A skip interval of four was used. This method is ideal because it helps to cover a wider targeted population easily. The actual respondents, who in this research were the heads of households and the key informants, were purposively selected. Purposive sampling is ideal as it involves identification and selection of individuals that are proficient and well informed about the subject matter (Saunders, Lewis and Thornhill, 2012). Heads of households were selected as respondents because they are the ones in charge and responsible for the entire household, while key informants were selected because they are key stakeholders in the implementation of the keep Zambia Clean, Green and Healthy Campaign in the district and have relevant knowledge on this matter.

### **3.8. Methods of Data Collection**

The methods of data collection were interviews and administering of a questionnaire. Interviews were used for the key informants as they provided qualitative data. The researcher interviewed all the key informants on a face to face basis using an interview guide. This involved semi-structured interviews which allowed the researcher room to ask additional questions and get clarifications or more details about the issue (Saunders, Lewis and Thornhill, 2012). On the other hand a questionnaire was used to collect information from heads of households who were included in the sample. Again the researcher went into the field and administered the questionnaire to the household heads on a face to face basis, moving door to door, while observing the skip interval of four. This helped to collect quantifiable information on the Keep Zambia Clean, Green and Healthy Campaign. The questionnaire was made up of a mixture of closed-ended, open ended and partially closed ended questions. Further, secondary data was collected by reading and analysing relevant documents on the Keep Zambia Clean, Green and Healthy

Campaign in order to obtain detailed information on what is documented on the research topic.

### **3.9. Reliability of Data**

In order to assess the reliability of the collected data, this research tested the instruments of data collection using the internal consistent method. This involved having questions that are logically related and responses also logically related (Msabila and Nalaila, 2013). The responses should not contradict each other. Only responses that do not contradict each other were used in this research.

### **3.10. Validity of Data**

This research applied content validity by ensuring that all aspects of the topic at hand were covered in the questionnaire and interview guides (Msabila and Nalaila, 2013). In other words, the researcher used formulated questions in the questionnaire and interview guides that had content covering all aspects of the Keep Zambia Clean, Green and Healthy Campaign. These aspects include planning, funding, participation, attitudes, sensitisation, constraints and impact of the Keep Zambia Clean, Green and Healthy Campaign. Content validity is chosen for this research in order to ensure that all elements of the study subject are covered, thereby making the collected data valid (Msabila and Nalaila, 2013).

### **3.11. Methods of Data Analysis**

This research used both qualitative and quantitative methods of data analysis. For qualitative data, content analysis was used to analyse data collected from key informants using semi-structured interviews. This involved grouping or putting related elements in the same category to create themes of data such as planning, funding, participation, attitudes, sensitisation and constraints. Based on the data patterns, conclusions were drawn and recommendations made. On the other hand, quantitative data collected from the heads of households through a questionnaire were analysed using a computer programme called the Statistical Package for Social Sciences (SPSS). The SPSS is chosen because it helps to generate percentages, graphs, tables and frequencies among others for quantifiable data. This was done by entering all the raw data collected onto excel file. The raw data was then imported into the SPSS using the same excel file and then SPSS analysed the data and

provided results. The results given by the software were efficient, accurate and provided graphs and charts for further analysis. Thereafter, conclusions were drawn (Ashirwadam, 2006).

### **3.12. Research Ethics**

This research took into consideration ethical issues. In so doing, permission was formally sought and granted to collect data from the Lusaka City Council, Lusaka Water and Sewerage Company and the Ministry of Local Government. Further, consent was obtained before an interview and administering questionnaires to respondents. Participants voluntarily agreed to take part in the research. Respondents were also allowed to ask questions about the study and answers were given for clarity. Furthermore, participants were informed of their right to decline to answer any question which they were not comfortable with in the process of data collection as well as their right to withdraw from the study at any time. All participants were also assured of confidentiality, while at the same time participant's identities were kept anonymous. Additionally, ethical clearance was also obtained from the Directorate of Research and Graduate Studies at the University of Zambia.

### **3.13. Limitations of the research**

This research was not without challenges. A number of challenges were encountered in the process of conducting this research. The limitations of the research are as follows:

1. Some residents of Mtendere Compound mistook the researcher for a Lusaka Water and Sewerage Company official and attempted to beat him up on account that he was responsible for the non-availability of water in the areas. The researcher was also verbally abused. This forced the researcher to abandon some areas of the compound.
2. One of the institutions targeted for this research was the Zambia Environmental Management Agency (ZEMA). However, despite formal request to conduct research at the institution and numerous follow ups, the institution could not grant the request on the understanding that the

Director responsible for training and research was not available. This made it very difficult to interview anyone from this institution.

3. Challenges were also faced in Kabulonga residential area, as some residents simply refuse to answer the questionnaire while other residences had no one responding to knocks at the main gate. Further, some security guards found at the gates to the yards did not allow entry on the pretext that the house occupants were not around. This made it difficult to adhere to the skip interval of four in some cases. Other homes had household heads not present at the time of the research.
4. Other challenges faced were in Chilenje Township where some residents accused the researcher of coming from a political party trying to get information to discredit the ruling party and government, as having failed to provide water as a social service. Others also opted not to take part in the research for fear of being seen to be siding with the opposition political parties.
5. Another challenge was language barrier in some residences, as the researcher was not conversant with some Zambian languages, while at the same time there was no interpreter.

However, the researcher undertook the following measures to address the limitations of the research:

1. On the problem of violent residents, efforts were made to collect data from other areas of the same compound where respondents were cooperative.
2. On the difficulty to collect data from ZEMA, the information required was later obtained from the Lusaka City Council and the Ministry of Local Government and Housing.
3. On the non-availability of household heads and unanswered questionnaires, the researcher was forced to move to the next house, where another questionnaire was provided and answered immediately.
4. On the suspicion that the researcher was a political party member trying to collect information to discredit the ruling political party and government, the researcher had to explain himself as a student from the

University of Zambia and employed the information consent form to clear the misunderstanding. Only then did some respondents take part.

5. On the problem of the language barrier and the non-availability of an interpreter, the researcher was forced to move to the next house making it difficult to maintain the skip interval of four in such cases.

## **CHAPTER 4**

### **CONSTRAINTS FACED BY THE GOVERNMENT IN THE PROCESS OF IMPLEMENTING THE KEEP ZAMBIA CLEAN, GREEN AND HEALTHY CAMPAIGN IN RESIDENTIAL AREAS**

#### **4.1. Introduction**

This chapter is aimed at presenting and discussing the findings relating to the first specific objective which reads: To identify constraints faced by the government in the process of implementing the Keep Zambia Clean, Green and Healthy Campaign in residential areas. In order to do this, the chapter will start with presentation of the findings on the constraints faced by the central government. This will be followed by a discussion of constraints faced by the local council and the water utility company followed by their discussion/analysis and/ or a conclusion or conclusions about them.

#### **4.2 Constraints faced by the central government in the process of implementing the Keep Zambia Clean, Green and Healthy Campaign in residential areas**

The Keep Zambia Clean, Green and Healthy Campaign is implemented by a network of actors with specific roles to play. This arrangement is in line with Koppenjan and Klijn's (2012) argument about the operations of governance networks. The actors involved in the implementation of the Keep Zambia Clean, Green and Healthy Campaign in residential areas include the central government, Local Councils, water utility Companies and residents. The central government is represented by the ministry of Local Government in the process of implementing this campaign. The major role of the ministry of Local Government in this process is to supervise the other actors. The Assistant Director for Local Government Administration at the Ministry of Local Government explained that the role of the Ministry of Local Government is to provide guidance and oversight to all local authorities in the country on all local government programmes, including the Keep Zambia Clean, Green and Healthy Campaign (Assistant Director-Local Government Administration, MLGH).

The other role played by the ministry is to allocate funding in form of equalisation funds to all local authorities in the country. For instance, city councils like Lusaka City Council are allocated approximately Zambian Kwacha (K) 3,000,000 monthly by the Ministry of Local government to supplement the council's locally mobilised resources. The local sources of funding are licensing fees, ground rates and revenue from markets among others. These funds are expected to cater for all council operations although the claim by the councils is that the funds are not enough (Assistant Director-Local Government Administration, MLGH).

However, the ministry of Local Government faces problems to implement the Keep Zambia Clean, Green and Healthy Campaign in residential areas. The main problem relates to civic leaders who have difficulties in understanding the concept of the Keep Zambia Clean, Green and Healthy Campaign. They mistake it for an activity that is supposed to benefit them financially in form of allowances. Unfortunately, there are no specific allowances for taking part in this campaign for civic leaders as this falls within their normal duties. As a result, there is little or no motivation for them to actualise the campaign (Assistant Director-Local Government Administration, MLGH).

#### **4.3 Constraints faced by the local council in the process of implementing the Keep Zambia Clean, Green and Healthy Campaign in residential areas**

The Local authority in Lusaka is also not spared when it comes to constraints as regards the implementation of the Keep Zambia Clean, Green and Healthy Campaign. The Lusaka City Council Waste Management Cleansing Superintendent explained that among the stakeholders in this campaign are the households, the Ministry of Health through community based organs like the Neighbourhood Health Committees, the Lusaka Water and Sewerage Company, the traditional leadership, Parks and Gardens department under the Lusaka City Council and the Ministry of Local Government through community development centres. This combination of stakeholder appears to be a representation of the main actors in the campaign whose contribution is vital to the success of the Keep Zambia Clean, Green and Healthy Campaign. He added that the role of the Ministry of Local Government is to sensitise the households and ensure enforcement of the law, while the Lusaka Water

and Sewerage Company has the responsibility of providing water for irrigation (Waste Management Cleansing Superintendent, Lusaka City Council).

He also further mentioned that the Lusaka City Council's role is to sensitise households on the importance of living in a green environment as well as provide guidance to residents on the practical implementation of the campaign. He said that "Our role is to sensitise households on the importance of living in a green environment and guidance on implementation". He further added that the Lusaka City Council is led by the Mayor of the city as is a political head of the council. According to Chipenzi (2018), the roles of the Mayor of a city include superintending over policy making, ensure annual budget preparation and implementation of strategic plan, and ensure the development and design of economic development programmes. Other roles of the city Mayor are to ensure development and implementation of robust performance management systems, promote citizen engagement and participation in council programmes and preside over council meetings and ceremonial functions. The function of the City Mayor of promoting citizen participation and engagement in council programmes is in line with the revelation by Lusaka City Council Waste Management Cleansing Superintendent who contended that the Lusaka City Council's role is to sensitise households on the importance of living in a green environment as well as provide guidance to residents on the practical implementation of the campaign. On the other hand, among the duties of the council town clerk is to oversee the initiation and provision of public services, oversee the implementation of financial management and resource mobilisation systems and strategies and conduct statutory functions delegated to the office under the various pieces of legislation. This means that the town clerk has the responsibility of supervising the public health department of the Lusaka City Council as the administrative head of the council. Overall, this scenario shows that the Mayor basically makes policy decisions with the civic leaders while the council town clerk implements the policies made and in this case, the council town clerk is responsible for the implementation of the Keep Zambia Clean, Green and Healthy Campaign.

The Lusaka City Council Waste Management Cleansing Superintendent further asserts that other constraints faced by the council in the process of implementing the campaign is people's mind set which was negative towards the campaign, lack of information for people to appreciate the benefits of the campaign, few stakeholders, especially those to do sensitisation on the benefits of a clean and green environment, lack of effective communication strategies such as the use of social media, loud hailers, print and electronic media and the non-availability of such information on the school curriculum including insufficient funds. For example, the Lusaka City Council budget for the Keep Zambia Clean, Green and Healthy Campaign was K1, 162, 264.00 for the year 2017, K1, 327, 817.00 for the year 2018, K1, 586, 953.00 for the year 2019 and K950, 230.00 for the year 2020. At the same time, the monthly wage bill for Lusaka City Council is approximately Kwacha 16 million while revenue from locally mobilised funds such as ground rates, licensing fees and revenue from markets amounts to far less than the Lusaka City Councils wage bill leaving council workers in salary areas. This leaves the council with no choice but to allocate to the Keep Zambia Clean, Green and Healthy Campaign less than 50 percent of the budget requirements as the council's priority for all funds realised before any expenditure is to pay salaries. When it comes to the Keep Zambia Clean, Green and Healthy Campaign, the council prioritises the procurement of personal protective equipment for council workers and cleaning materials to be used on the first Saturday of every month during the government designated cleaning day leaving no funds for sensitisation and other activities regarding the campaign. This cleaning activity is mainly done around council offices premises involving selected individuals from all departments. This situation is made worse by the fact that the Local Government equalisation funds are not released every month as is supposed to be the case due to insufficient fund from the Ministry of Local Government. To him, these constraints are a major hindrance to the success of the Keep Zambia Clean, Green and Healthy Campaign. He further suggested that these issues needed to be attended to if the campaign is to be successful in Lusaka District (Waste Management Cleansing Superintendent, Lusaka City Council).

These findings show that the Lusaka City Council is the implementer, while the Ministry of Local Government and Housing's role is to provide guidance, funding and oversight in the implementation of this campaign. In so doing, it is the role of the

council to sensitise the public on the Keep Zambia Clean, Green and Healthy Campaign.

However, there is a problem of funding, which is not adequate to ensure that the Lusaka City Council implements this campaign especially sensitisation of the residents of Lusaka district. This aspect has led to numerous constraints such as people's negative mind set and lack of effective communication especially through print and electronic media as the Council has insufficient funds to conduct these activities which are vital for the success of this campaign. This shows that the Ministry of Local Government as an oversight actor in this network is not performing its functions to the achievement of collective goal which is the success of the campaign. This is in line with the Koppenjan and Klijn (2012), who argues that the governance network theory also comes in to adopt an interorganisational perspective, thereby forming a network of actors that depend on each other for survival. In this case the council depends on the Ministry of Local Government for funding and the subsequent survival of the campaign. The lack of communication systems in form of electronic, print and social media is a big problem. This is in agreement with Hansen (2014) who asserts that social media is an important and effective component of those non-profit organisations strategy in raising awareness on a particular issue.

#### **4.4 Constraints faced by the water utility company in the process of implementing the Keep Zambia Clean, Green and Healthy Campaign in residential areas**

The Lusaka Water and sewerage Company is one of the stakeholders mentioned by the Lusaka City Council Waste Management Unit Cleansing Superintendent, as responsible for providing water to residents of Lusaka. However, the company faces both internal and external constraints that have made the company's operations difficult. These constraints have impacted negatively on the Keep Zambia Clean, Green and Healthy Campaign.

Among the internal constraints are numerous situations faced by the company. The Lusaka Water and Sewerage Company Assistant Database Administrator explained that apart from supplying water to residents, the company also provides sewerage

services. However, the water utility company faces numerous constraints to implement the Keep Zambia Clean, Green and Healthy Campaign in residential areas. The Assistant Database Administrator at LWSC mentioned that the main problem that the company has been facing in the process of the implementation of the campaign is the high cost of electricity to pump water to its customers, which has increased the cost of producing and supplying water to Lusaka residents. This has had a negative effect on the company's ability to sufficiently provide the much needed water to Lusaka resident. This is made worse by the fact that compliance levels from customers in paying their bills remains at only 70 percent. Thus reducing the revenue collected by the company which is supposed to be used to pay for electricity. This has created a scenario where the cost of producing and supplying water remains high while at the same time the revenues collected are low owing to low compliance levels by customers in form of paying their water bills. This has put the water utility company in a difficult position. In his view, this has resulted in a situation where the water supplied to the residents of Lusaka was not adequate to cater for their needs including watering grass and trees and that the company was in the process of upgrading the whole water supply system (Assistant Database Administrator, Lusaka Water and Sewerage Company).

Another official, the Assistant Accountant at Lusaka Water and Sewerage Company (LWSC) also explained that the company had challenges with the lower levels of underground water which greatly affected the company operations. In other words, the underground water table in Lusaka district has generally gone down. This means that the company is not getting enough water from underground water sources. The Assistant Accountant at Lusaka Water and Sewerage Company (interview, 01 October 2019) said that "The underground water levels are very low hence we cannot pump enough water".

The Billing Officer at the same company also had a similar argument asserting that among the main problems faced by the Lusaka Water and Sewerage Company in this campaign was the lack of sensitisation and compliance levels by the residents in paying for their water bills which he said was average unless disconnected. The billing officer (interview, 29 September 2019) explained that the residents were quick to pay for their water, only when disconnected by the company, a situation which was unfortunate. He added that there was need to sensitise the people on the

importance of both paying their bills and the Keep Zambia Clean, Green and Healthy Campaign. The Chief Cashier at LWSC also pointed out that the company had a challenge in terms of water demand which had out tripped supply. This means that there is more demand for water than there is supply. Meanwhile, the Assistant Database Administrator, the Billing Officer, the Assistant Accountant, the Chief Cashier and a Plumber at the LWSC all explained that in their view, the water supplied to the residents of Lusaka by the company was not adequate to cater for people's needs, which include the watering of grass and trees.

On the other hand, the water utility company also faces external constraints. These external constraints have made the water utility company's operations challenging. Among the external constraints is electricity load shedding by the power utility company which has not spared the water utility company. This has resulted into the company having inadequate electricity to pump enough water. A Plumber at the same company added that the long hours of load shedding by the Zambia Electricity Supply Corporation (ZESCO) and illegal water supply connections by customers made the situation worse as the company could not pump adequate water while the demand for water was high worsened by the already mentioned illegal connections by customers who do not even pay for the service. A plumber at LWSC (interview, 01 October 2019) also argued that the electricity load shedding had reached alarming levels and was now too much and costly to the company's operation. He explained that the illegal connection by customers worsened the problem by raises the demand for the already insufficient water supply resulting into water rationing in some areas. The above clearly shows that electricity load shedding coupled with illegal water connections by customers and the high demand for the commodity has created serious constraints for the water utility company.

In order to address some of these constraints, the water utility company has partnered with the United States government through the Millennium Challenge Account Zambia to upgrade the Lusaka water supply system through the Lusaka Water Supply, Sanitation and Drainage (LWSSD) Project. Under this US\$ 355 million project funded by the Millennium Challenge Corporation and implemented by the Millennium Challenge Account Zambia, most parts of Lusaka will not only have

improved water supply but also improved sanitation services and drainage works. Among the works being done is the rehabilitation and expansion of the Iolanda Water Treatment Plant in Kafue to improve the water production capacity from 98 million litres per day to 110 million litres per day. This water will be enough to cater for all Lusaka residents including those in high density areas and unplanned settlements. Other works under this project include rehabilitation and upgrade of the water transmission mains, expansion of water distribution networks and expansion of sewer network and sewerage pump stations. A 750, 000 cubic litres water reservoir has also been constructed in Lusaka's Kwamwena areas to supply water to residents of Kwamwena and surrounding areas (Millennium Challenge Account Zambia, 2017).

The above findings show that the Lusaka Water and Sewerage Company have limited capacity as regards the provision of water to the residents of Lusaka owing to both internal and external problems. Among the numerous internal problems are the low compliance levels by customers in terms of paying for their water bills. Unfortunately, the majority of the Lusaka residents are in high density areas whose income levels are very low as compared to low density areas. Poverty levels are also high in high density areas as compared to low density areas. This explains why the compliance levels are low when it comes to bill payments by Lusaka residents. As already explained, the low compliance levels by the residents in terms of paying for their water bills have not helped the situation. This has negatively affected the revenue collected by the LWSC which is vital if the company is to address some of its constraints which include the much needed upgrade of the water supply infrastructure and construction of new water lines in new areas. Further, the LWSC infrastructure which is the water line or pipes network for Lusaka is not adequate to cover most areas of Lusaka, hence the need to upgrade the underground water system. Therefore, with inadequate capacity by the water utility company, it is not possible to actualise the campaign and later on achieve success. Thanks to the Millennium Challenge Account Zambia who have come on board to implement the Lusaka Water Supply, Sanitation and Drainage (LWSSD) Project which is expected to address the water network infrastructure problem.

On the other hand, the water utility company also faces external constraints such as electricity load shedding by the electricity supply company. The advent of electricity load shedding by the Zambia Electricity Supply Company has led to the company failing to pump adequate water to its customer who happens to be residents of Lusaka. This has put pressure on the company owing to the high demand for the commodity which at the same time the revenue collected is inadequate to cater for all its operations including spares and maintenance works.

Thus, the LWSC as an actor in this case, is not properly playing its part to the success of the whole campaign. With such a scenario, the success of the Keep Zambia Clean Green and Healthy Campaign is practically impossible. There is need therefore for mind-set change, to improve the situation through adequate sensitisation on the importance of residents paying for their water promptly.

The above scenario shows that the Lusaka Water and Sewerage Company face numerous constraints which are both internal and external. These constraints have led to the failure of the Keep Zambia Clean, Green and Healthy Campaign. Therefore all these problems need to be addressed if the campaign is to be a success.

#### **4.5. Conclusion**

In conclusion, the findings show that the Keep Zambia Clean, Green and Healthy Campaign comprise a network of actors. These actors are the central government, the local council, the water utility company and the residents. These actors have specific roles to play. The role of the central government is to provide oversight and guidance. It is also the role of the central government to provide the financial resources to the local council for the implementation of the Keep Zambia Clean, Green and Healthy Campaign. The role of the local council is to implement the Keep Zambia Clean, Green and Healthy Campaign and sensitising the residents. The water utility company's role is to provide water for watering trees and grass while the residents are responsible for planting the needed trees and grass. These actors have to work together for the campaign to be successful.

However, the campaign has proved to be a challenge and is failing partly because the local authorities have financial constraints and that the concept of the green environment has not yet trickled down to the grass root level, which is the ward. Thus the implementing actor in this case is the council, while the central Government provides guidance, funding and oversight.

Further, as already mentioned, the role of the central Government in this campaign is to provide guidance, funding and oversight. This shows that the campaign is captured by the state through the Ministry of Local Government as a dominant actor. By implication, it is only the Central Government through the Ministry of Local Government which has to give direction on the campaign without which there is no activity. Furthermore, the State, through the central Government, is also expected to provide adequate funding for the campaign to be successful of which it is not doing. Largely, the campaign has failed due to lack of adequate funding from the central government. Sensitisation of the residents, which is the responsibility of councils, is also dependant on funds of which the locally mobilised council funds are inadequate. There is also no mention of a separate and specific budget line from the Ministry of Local Government to the Lusaka City Council for the Keep Zambia Clean, Green and Healthy Campaign, while at the same time the mention of insufficient funds is prominent. The Lusaka City Council is supposed to receive Three million kwacha monthly as Local Government equalisation funds but unfortunately, these funds are not released every month. Further, the funds fall far short of the Kwacha 16 million monthly wage bill which is a priority for the council. The revelation that the locally mobilised funds by the council are far short of covering the wage bill means that the council is left to be in a difficult financial position. This shows that there is no much seriousness attached to this campaign by the dominant actor, in this case the central government. There is need for separate and specific funding to the council for the Keep Zambia Clean, Green and Health Campaign.

In high density areas where literacy levels are low, the sensitisation campaigns by the council, if sufficiently funded could have been more successful with the use of the electronic loud speaker system, mounted on vehicles, disseminating the sensitisation messages from street to street, in local languages spoken and understood by the community members. In relation to the recent COVID 19 sensitisation effort, it looks the campaign strategy has produced desirable results.

The above findings also show that the water utility company has limited capacity as regards the provision of water to the residents of Lusaka. The situation is even made worse by inconsistent electricity supply through Load shedding which has led to the company failing to pump adequate water to customers who happen to be residents of Lusaka. Further, the water utility company's infrastructure which is the water line or pipe network for Lusaka district is not adequate to cover most areas of Lusaka, especially with the growing population and mushrooming of unplanned settlements, hence the need to upgrade the underground water system. In some cases, the pipes are worn out with numerous leakages, resulting into loss of the already inadequate water supplied to Lusaka residents. Therefore with inadequate capacity by the water utility company, it is not possible to actualise the Keep Zambia Clean, Green and Healthy Campaign and later on achieve success. The water utility company, as an actor in this case, is not properly playing its part to ensure success of the campaign. The failure to invest in the system upgrade could be as a result of the need to maximise profits and minimise costs as a private company. This is in line with the assertion that governance network can also be captured by actors in the private sector whose desire is to save costs and increase profits. It must be noted that the failure by most residents to pay for their water bills has also negatively affected the water utility company's revenue base. This means that the water utility company collects limited resources making it difficult to fund the much needed water infrastructure upgrade in Lusaka district. This culminates into little and in most cases erratic or no water supply to Lusaka residents by the water utility company thereby affecting the campaign. With this scenario, it is impossible to actualise the Keep Zambia Clean, Green and Healthy Campaign. This has contributed to the failure of the campaign.

However, the coming on board of the Millennium Challenge Account Zambia US\$355 million Lusaka Water Supply, Sanitation and Drainage (LWSSD) Project funded by the United States of America through the Millennium Challenge Corporation will help address the problems of inadequate infrastructure and water network system in Lusaka district. This shows that efforts are being made to by the government and cooperating partners to address this problem of inadequate water supply as a result of insufficient water supply network. The project will not only improve the water supply network but also increase the volume of water thereby increasing the water utility company's capacity to supply water to all Lusaka

residents. Unplanned settlements especially in high density areas will also be covered as well as improved water supply duration.

## CHAPTER 5

### CONSTRAINTS FACED BY RESIDENTS IN KEEPING THEIR PREMISES GREEN

#### 5.1. Introduction

This chapter presents and discusses the findings relating to the second specific objective which reads: To identify constraints faced by residents in keeping their premises green. In order to do this, the chapter starts with an introduction. It then moves to look at availability of trees in residential areas, constraints faced in keeping green trees in residential areas, availability of green grass in residential areas, constraints faced in keeping green grass in residential areas, availability of water, source of water, then conclusion.

#### 5.2. Availability of green trees in residential areas

**Table 5.1: Availability of trees around your house**

Availability of Trees	Type of Residential Area			Total	%
	Low Density	Medium Density	High Density		
Yes	22	35	28	85	<b>70.8</b>
No	2	8	25	35	<b>29.2</b>
<b>Total</b>	<b>24</b>	<b>43</b>	<b>53</b>	<b>120</b>	<b>100</b>

**Source: Field Data**

From the information gathered, 85 respondents, representing 70.8 percent, have trees around their houses while only 35 respondents, representing 29.2 percent, have none. However, it must be noted that the majority of respondents, with trees are from low density areas with 22 respondents, having trees as opposed to only two respondents with none. On the other hand in high density areas, 28 respondents have trees as opposed to 25 with none. This shows that majority of the residents in high density areas, have trees around their houses but the difference with these with none is minimal. The majority of trees found in high density areas are natural growing trees that do not need caring, in terms of watering. This also includes trees that provide the boundary fencing of particular yards. This information is shown in the table above.

**Table 5.2: Number of trees around the house**

Number of Trees	Type of Residential Area			Total	%
	Low Density	Medium Density	High Density		
Less than 6	15	27	21	63	<b>52.5</b>
6 – 10	4	3	2	9	<b>7.5</b>
11 – 15	0	3	1	4	<b>3.3</b>
Above 15	3	2	4	9	<b>7.5</b>
Not applicable	2	8	25	35	<b>29.2</b>
<b>Total</b>	<b>24</b>	<b>43</b>	<b>53</b>	<b>120</b>	<b>100</b>

**Source: Field Data**

Further, 63 respondents representing 52.5 percent, have less than six trees within each households jurisdiction or yard, 9 respondents representing 7.5 percent, have between 6 and 10 trees, which is the same statistic with those with 15 trees and above. However, 35 respondents representing 29.2 percent, completely have no trees within each household’s jurisdiction due to lack of space. In high density areas, the lack of space has been pointed out as the main reason for failure to plant trees and grass, especially that the sizes of the yards are generally too small for this activity. This is made worse by the desire by residents who prefer to put up additional structures for rent for purposes of raising more money as opposed to the greenery. This means that the campaign is very difficult and a big challenge in high density areas due to lack of space. This finding also indicates that there are fewer trees within each household jurisdiction in residential areas of Lusaka district. This information is shown in Table 5.2 above.

### 5.3. Constraints of keeping green trees

In order to maintain a green environment, trees are supposed to be well looked after. One of the ways this can be done is to ensure that they are watered on a daily basis.

**Table 5.3: Frequency of watering trees**

Frequency	Availability of trees around the house		Total	%
	Yes	No		
Every day	16	0	16	<b>13.3</b>
2 - 3 days per week	17	0	17	<b>14.2</b>
4 - 7 days per week	1	0	1	<b>0.8</b>
Once a week	10	0	10	<b>8.3</b>
Rarely	16	1	17	<b>14.2</b>
Not at all	25	34	59	<b>49.2</b>
<b>Total</b>	<b>85</b>	<b>35</b>	<b>120</b>	<b>100</b>

**Source: Field Data**

Despite a few residential areas having trees, the majority of these trees are not watered. As earlier discussed, most of these trees are considered to be natural trees, that do not need any watering and care. 59 respondents representing 49.2 percent, do not water their trees at all, despite 25 of them having trees around their houses. Another 17 respondents representing 14.2 percent, rarely water their trees. This put together, is too big a percentage of the residents who do not water their trees as per the campaign requirement. A combined percentage of 63.2 percent of residents, not actively watering their trees because they have not planted any that require care, explains that this campaign has serious problems and efforts need to be made to address them. The statistic of only 16 respondents out of 85, who have trees around their houses and water them daily, representing 13.3 percent of residents, is worrying and another indication of failure of the campaign. The majority of these trees are natural growing trees of which many residents feel do not need watering. Notably, various reasons were given for not watering the trees every day. The reasons range from erratic supply of water to the fear for high water bills, while in some cases the yards completely have no trees, as the residents see no need due to inadequate water supply. The situation is made worse by the landlords, who prefer to pave their yards

for marketing purposes, and raising the value of their properties, especially in low and medium density areas while in high density areas, the plots sizes are too small to consider planting trees. The majority of the space around the yard is taken up by additional houses put up for rent. Further, other residents have no maids or servants to water the trees while they are at work. Others simply have no running water at their houses and have to move a considerable distance to buy the commodity in containers. In Mtendere compound, residents do not just see the need to water trees as they think that natural growing trees are not supposed to be watered. This finding is in line with the findings on the plot sizes in the background information where the majority of the plots sizes are 20m \* 20m with little or no space for planting trees. The erratic and sometimes non-availability of water supply to some residents is also in line with the revelations by Lusaka Water and Sewerage Company officials interviewed who contended that the water supplied to Lusaka residents is not enough to cater for all their needs including watering of trees and grass. This means that the majority of these trees are not watered partly because they are also seen to not require such. This information is shown in table 5.3 above.

**Table 5.4: Availability of water per day**

Availability of Water per day	Type of Residential Area			Total	%
	Low Density	Medium Density	High Density		
19 - 24 hours	16	23	2	41	<b>34.2</b>
13 - 18 hours	4	6	4	14	<b>11.7</b>
07 - 12 hours	1	11	18	30	<b>25</b>
01 - 06 hours	3	3	29	35	<b>29.2</b>
<b>Total</b>	<b>24</b>	<b>43</b>	<b>53</b>	<b>120</b>	<b>100</b>

**Source: Field Data**

The majority of the residents of Lusaka have inconsistent supply of water. Only 41 respondents, representing 34.2 percent, have water supply throughout the day (19 – 24 hours), 14 respondents have water supply between 13 and 18 hours per day representing 11.7 percent, 30 respondents have water supply between 07 to 12 hours

per day representing 25.0 percent, with 35 respondents having water supply between 01 to 06 hours per day representing 29.2 percent. This means that only 34.2 percent of Lusaka residents have water all day, while 65.8 percent have inconsistent water supply. This finding also means that most residents of Lusaka district have erratic water supply which cannot cater for all their needs including watering of trees and grass. This is again in line with the argument from the Assistant Database Administrator, the Billing Officer, the Assistant Accountant, the Chief Accountant and a Plumber at the Lusaka Water and Sewerage Company who all explained that in their view, the water supplied to the residents of Lusaka by the company was not adequate to cater for their needs including the watering of grass and trees. The worst affected residents are those from high density areas heavily dependent on LWSC water supply. Therefore it explains why residents have had constraints in maintaining green residential areas as most of them depend on water from the LWSC which is not adequate. Water is essential for watering trees and grass without which trees and grass are expected to wither hence its non-availability makes the campaign practically impossible to achieve success. The situation is worse in high density areas which mainly receive water for less than six hours per day. This information is shown in table 5.4 above.

**Table 5.5: Time of the day when water is usually available**

Time of the Day	Type of Residential Area			Total	%
	Low Density	Medium Density	High Density		
Whole day	17	30	2	49	<b>40.8</b>
Morning	4	7	42	53	<b>44.2</b>
Afternoon	1	2	5	8	<b>6.7</b>
Evening	1	2	1	4	<b>3.3</b>
Night	1	2	3	6	<b>5</b>
<b>Total</b>	<b>24</b>	<b>43</b>	<b>53</b>	<b>120</b>	<b>100</b>

**Source: Field Data**

The availability of water is an important aspect of the Keep Zambia Clean, Green and Healthy Campaign. This is so because for one to water trees and grass, water is

required. The same applies to the need for a clean environment. It is impossible to have a clean and healthy environment without water. Trees and grass need water to grow without which they are expected to wither and die. Thus, the importance of the availability of water cannot be overemphasised. In most residences in Lusaka district, the supply of water is erratic and sometimes not even available. The water situation is made worse by the fact that water supply is mostly available during morning hours when most residents are either at work or busy with their businesses and not at home to water trees and grass. Those in high density areas have even more constraints as most of them have no garden boys to water their trees and grass. Only 49 respondents representing 40.8 percent, have water all day with 53 respondents having water supply only in the morning representing 44.2 percent. 8 respondents have water in the afternoon only representing 6.7 percent, 4 respondents have water in the evening representing 3.3 percent and 6 respondents have water in the night time representing 5.0 percent. This means that the majority of residents have water supply in the morning only. The most affected are residents of high density areas in this case Mtendere compound while the majority of those with water the whole day are from low density areas in this case Kabulonga Residential area. The number of respondents with water supply the whole day has risen to 49 respondents representing 40.8 percent due to the inclusion of respondents with personal borehole and those with both Local council and personal borehole mainly in low density areas who represent 11.7 percent and 7.5 percent respectively. This means that the majority of the residents have water only in the morning especially in high and medium density areas while low density areas have water all day. This information is shown in Table 5.5 above.

#### 5.4. Availability of green grass in residential areas

**Table 5.6: Availability grass around houses**

Availability of Grass	Type of Residential Area			Total	%
	Low Density	Medium Density	High Density		
Yes	16	21	5	42	<b>35</b>
No	8	22	48	78	<b>65</b>
<b>Total</b>	<b>24</b>	<b>43</b>	<b>53</b>	<b>120</b>	<b>100</b>

**Source: Field Data**

Just like the situation is with trees, the majority of the residential areas do not have grass planted around the yards, watered and cared for. 78 respondents representing 65 percent of the respondents completely have no grass around their houses while on the other hand; only 42 respondents representing 35 percent of the respondents have grass around their houses. The majority of those with grass around their houses are those from low density areas in this case Kabulonga residential area while the majority of those with no grass are from high density areas in this case Mtendere compound. A selected few in medium density areas have grass around their houses in this case Chilenje Township. This means that the majority of the Lusaka residents have no grass planted, watered and cared for around their yards. This information is shown in the table 5.6 above.

**Table 5.7: Portion of the yard covered with grass**

Portion covered by grass	Type of Residential Area			Total	%
	Low Density	Medium Density	High Density		
BELOW 10%	3	11	4	18	<b>15</b>
10 - 19%	3	5	1	9	<b>7.5</b>
20 - 29%	4	2	0	6	<b>5</b>
30 - 39%	3	3	0	6	<b>5</b>
40 - 49%	1	0	0	1	<b>0.8</b>
50 - 59%	2	0	0	2	<b>1.7</b>
Not Applicable	8	22	48	78	<b>65</b>
<b>Total</b>	<b>24</b>	<b>43</b>	<b>53</b>	<b>120</b>	<b>100</b>

**Source: Field Data**

The majority of those with grass around their yard have insignificant portions. 18 respondents representing only 15 percent have less than 10 percent of their yard covered with grass, with only 9 respondents representing 7.5 percent having between 10 and 19 percent of their yard covered with grass. Notably 78 respondents representing 65 percent completely have no grass as their yards have no space to plants the grass due to too many houses covering a larger portion of the yard.

This finding shows that most people prefer to utilise the remaining space around their yard to build more houses to rent out and get more revenue. Again this trend of building more structures on the only remaining spaces around the yard is mostly common in high density areas where the need for more buildings is preferred to the greenery. This is in line with the findings on the background data where the majority of the low income bracket is in high density areas with plot sizes of 20m \* 20m and below. It appears the low incomes earned by the low income households in high density areas justifies the construction of more buildings on the only remaining portions of their yards for rent in order to improve their income. This information is shown in table 5.7 above.

### 5.5. Constraints of keeping green grass

There are a number of constraints that the residents of Lusaka face in keeping green grass around their houses. Among the constraints is the irregular watering of grass that has proven to be a big problem.

**Table 5.8: Frequency of watering the grass**

Frequency	Availability of grass around the house		Total	%
	Yes	No		
Every day	16	0	16	<b>13.3</b>
2 - 3 days per week	10	0	10	<b>8.3</b>
4 - 7 days per week	1	0	1	<b>0.8</b>
Once a week	7	0	7	<b>6</b>
Rarely	8	0	8	<b>6.6</b>
Not at all	0	78	78	<b>65</b>
<b>Total</b>	<b>42</b>	<b>78</b>	<b>120</b>	<b>100</b>

**Source: Field Data**

As can be seen, the majority of the residents that have grass do not even water it at all. 78 respondents representing 65 percent do not have grass around their houses to water, while eight respondents that have grass representing 6.6 percent rarely do so.

Only 16 respondents out of 42 who have grass around their houses water their grass everyday representing 13.3 percent of the respondents. The rest of the respondents water their grass on irregular timings. These irregular timings range from once to about three times a week. This shows that there are challenges when it comes to watering grass as the majority of the residents that have grass do not even water it at all. The situation is worse in high density areas where the plot sizes are too small. Apart from the erratic water supply as the main reason for not watering grass, most residents in high density areas, prefer to put up more structures for rent for monetary gain as opposed to the greenery. The situation also proves that there is need for sensitisation in order to encourage residents on the importance of not only having grass around their house but also regular watering. However, the situation is better in low density areas where most residences have grass planted and watered. This is also made possible by the fact that most yards in low density areas are relatively bigger with enough space to plant grass as well as improved water supply. This scenario where the majority of Lusaka residents that have grass around their yard are not even watering it is an unhealthy situation for the success of the Keep Zambia Clean, Green and Healthy Campaign. This information is shown in table 5.8 above.

**Table 5.9: Complaints on the Supply of Water to Residents**

Problems of water supply	Type of Residential Area			Total	%
	Low Density	Medium Density	High Density		
Not applicable	13	28	8	49	<b>40.8</b>
Poor attendance to faults and leakages	1	3	0	4	<b>3.3</b>
Poor customer service	1	3	1	5	<b>4.1</b>
There is no water supply in the area	3	2	11	16	<b>13.3</b>
Water being supplied is not enough	4	6	31	41	<b>34.1</b>
Water is dirty	2	1	2	5	<b>4.1</b>
<b>Total</b>	<b>24</b>	<b>43</b>	<b>53</b>	<b>120</b>	<b>100</b>

**Source: Field Data**

Among the reason for not having grass especially in high density areas is inconsistent water supply. Most households have erratic supply of water which is a hindrance to the success of the campaign. Among the many reasons given are that in some areas

there is no water for as much as two days while other have water for only two hours a day mainly in the morning when they are either at work or out for their respective businesses. Others have also complained that the water supplied by the water utility company is not only erratic but also dirty in some cases. This is again in agreement with the findings from the LWSC officials who contend that the water supplied to the residents of Lusaka is not adequate to cater for all their needs including watering of trees and grass. This information is shown in table 5.9 above.

The above findings show that the majority of Lusaka residents at 34.1 percent do not have sufficient water supply while 13.3 percent completely do not have water supply. The majority of those affected are in high density areas. This situation is not conducive for the successful implementation of the Keep Zambia Clean, Green and Healthy Campaign. The erratic water supply situation is not only demoralising to the residents but also makes it impossible to water trees and grass.

**Table 5.10: Income per month in Zambian Kwacha**

Income per Month	Type of Residential Area			%
	Low Density	Medium Density	High Density	
K3, 300.00 and below	6	13	38	<b>57</b>
K3, 300.01 - k4, 100.00	1	11	8	<b>20</b>
K4,100.01 - k6, 200.00	1	11	4	<b>16</b>
K6, 200.01 and above	16	8	3	<b>27</b>
<b>Total</b>	<b>24</b>	<b>43</b>	<b>53</b>	<b>120</b>

**Source: Field Data**

The majority of the respondents earn K3, 300.00 and below per month. Out of 120 respondents, 57 earn K3, 300.00 and below of which 38 are from high density areas, while 20 respondents earn between K3, 300.00 and K4, 100.00 of which only 8 respondents are from high density areas. Further, 27 respondents earn K6, 200.01 and above with only three respondents being from high density and 16 from low density areas. This means that the majority of the respondents earn K3, 300.00 and below and are from high density areas of Lusaka and therefore do not earn enough to

cater for their water bills. The above scenario gives a clear picture as to why some residents have difficulties in paying their water bills resulting in low compliance levels as explained by the Lusaka Water and Sewerage Company officials. This scenario means that due to most residents failing to pay their water bill, water supply disconnections by LWSC are common, as confirmed by the complaint by some residents that the LWSC takes too long to reconnect customers even after full payment have been made. This therefore, explains why most residents in high density areas have no water supply at their houses as they are mostly unable to pay their bills due to low income levels. As a result, most residents do not have water at their houses to water their trees and grass in line with the Keep Zambia Clean, Green and Healthy Campaign. This information is shown in Table 5.10 above.

**Table 5.11: Satisfaction with the cost of water**

Satisfaction	Type of Residential Area			Total	%
	Low Density	Medium Density	High Density		
Yes	14	26	19	59	<b>49.2</b>
No	5	15	31	51	<b>42.5</b>
Not Applicable	5	2	3	10	<b>8.3</b>
<b>Total</b>	<b>24</b>	<b>43</b>	<b>53</b>	<b>120</b>	<b>100</b>

**Source: Field Data**

It is worth mentioning that the majority of the respondents are satisfied with the cost of water. According to respondents, the cost of water is at an average of between K75.00 and K120.00 per month. From the responses received, most respondents do not have a problem with the cost but the erratic supply. This has led to some not seeing the need to pay for water supply which is erratic and mostly not available. 59 respondents representing 49.2 percent were happy with the cost of water, while only 51 respondents representing 42.5 percent were unhappy, with the question not being applicable to 10 respondents, mainly those with their own boreholes at 8.3 percent. This means that most respondents were happy with the cost of water. However, 42.5 percent of unhappy residents are too big a portion, to be ignored and explains the finding from the Lusaka Water and Sewerage Company that compliance in terms of bill payments was low unless disconnected. This information is shown in Table 5.11 above.

## 5.6. Source of water

As already mentioned, Lusaka resident do not have one source of water supply for their needs. This includes both planned and unplanned settlements. The source of water differs from low, medium and high density areas with some having a combination of two sources of water supply.

**Table 5.12: Source of water**

Source of Water	Type of Residential Area			Total	%
	Low Density	Medium Density	High Density		
Local Council	12	34	51	97	<b>80.8</b>
Personal Borehole	8	4	2	14	<b>11.7</b>
Both Council and personal Borehole	4	5	0	9	<b>7.5</b>
<b>Total</b>	<b>24</b>	<b>43</b>	<b>53</b>	<b>120</b>	<b>100</b>

**Source: Field Data**

There are basically three sources of water for most Lusaka resident. These include water from the local council in this case through the Lusaka Water and Sewerage Company, personal boreholes and both council and personal borehole. 97 respondents had their water source from the Local council representing 80.8 percent, 14 respondents have personal borehole representing 11.7 percent, while only 9 respondents have both borehole and Local Council water representing 7.5 percent. This means that the majority of the residents in Lusaka at 80.8 percent, depend on water supply from the Local Council, in this case from the Lusaka Water and Sewerage Company, whose supply is not only erratic but not even there is some cases. The majority of those who depend on local council water are from high density areas, where supply is erratic with 51 respondents, while only 12 respondents, from low density areas depend on local council water supply. This information is shown in figure 5.12 above.

## **5.7 Conclusion**

In conclusion, the above findings show that the majority of the residents, despite being aware do not take part in the Keep Zambia Clean, Green and Healthy Campaign, particularly the green aspect. This is so because the residents face numerous constraints that make it difficult for them to fully participate in the campaign. As already mentioned, the majority of Lusaka residents are in high density areas with plot sizes of 20m \* 20m or smaller which are too small to plant any trees and grass. Additionally, the remainder of the space around the house is mainly used to put up more structures for rent so as to earn more revenue. This makes good landscaping difficult due to inadequate space. This situation has led to most surroundings of houses not having green trees and grass. This is made worse by the erratic water supply from the water utility company from which 80.8 percent of the residents depend on. With erratic water supply the residents cannot manage to water their trees and grass making it difficult to actualise the Keep Zambia Clean, Green and Healthy Campaign.

The above scenario is confirmed by the responses from the officials from the water utility company who explained that the water supplied to residents of Lusaka was not enough to cater for all their needs, including watering trees and grass. In some areas, residents have no water completely and without any water lines in place. Further, the erratic water supply makes it unreasonable for anyone in the high density areas to plant trees and grass that will at the end of the day require watering using the water which is not available. In some areas, there is completely no water with the whole street without even water pipes in place, while other streets have water on selected houses through the system of communal taps. This is not conducive for the Keep Zambia Clean, Green and Healthy Campaign to flourish. This has proved to be a challenge for the residents. In cases where water supply is available, the supply is mainly in the morning hours when most household heads are out for their various businesses. This leaves no one at home to attend to issues such as watering trees and grass especially that most of the residents in high density areas are so poor to afford a garden boy. Therefore, the residents of Lusaka cannot effectively keep their residential areas green in line with the Keep Zambia Clean, Green and Healthy Campaign.

Most of the low income earning citizens are found in high density areas and see putting up more structures for rent on the remaining spaces on their plots as an opportunity to make more money through rentals to look after their families. Others complain that the water utility company demands payment even if the water was not supplied for even two months in some cases, while others complain that if disconnected, it takes a number of days for one to be re-connected to water supply even after making full payments. This has proved to be a big challenge to most residents and shows that the inefficiencies of the water utility company are negatively affecting the residents adding to the failure of the campaign. The situation is made worse by the electricity load shading by the electricity supply company which has made it very difficult for the water utility company to pump water to Lusaka residents. The absence of water supply lines in some areas in high density areas has not helped the situation. This means that some areas have completely no water, making the Keep Zambia Clean, Green and Healthy Campaign impossible to implement.

The situation is different in low density areas where plot sizes are reasonably bigger with space to plant green trees and grass. As a result, there are at least a number of residential premises with some planted trees and flowers and also reasonable portions of grass. These flowers and grass are well maintained mainly due to the favourable water supply from a combination of both council and borehole water sources. Further, the improved water supply in low density areas by the LWSC is mainly due to the fact that the low density areas house the top political and civil elite. These include leaders at national level such as the President, Cabinet Ministers, Permanent Secretaries, Directors in government Departments, Heads of Parastatal institutions to mention but a few. The political and civil elite are policy makers who cannot deny themselves the amenities that make life and living tolerably comfortable. Additionally, residences of important foreign dignitaries such as the high commissioners and ambassadors representing their countries in Zambia are all in low density areas. Therefore, the Zambian government intent on painting a positive picture to the outside world, tries to provide the best environmental services, including adequate water, to these residential areas. Furthermore, most foreign embassies tend to have their own funds, provided by their own governments, to improve their residential surroundings, including adequate water provision to

develop verdure and general cleanliness. This explains the presence of personal borehole on some residences. These factors tend to give credence to the claim that in low density areas of Lusaka district, the campaign for a clean, green and healthy environment is relatively successful.

However, the situation is different in medium density areas which are heavily dependent on council water. The area has some yards completely paved or covered with paving bricks, while others have small portions of the yard with grass. The trees around the areas are mainly naturally growing, with very few houses having trees, flowers and grass around the premises.

From the above, it is clear that the residents of Lusaka face numerous constraints which range from erratic water supply to non-availability of the commodity. Further, some areas of Lusaka completely have no water supply connectivity with residents, having to move a considerable distance to buy the commodity in quantities not enough to cater for watering of trees and grass. Additionally, the water that is bought from other residential areas is too expensive and normally charged per 20 litre container or in drums. For the residents of low density areas whose income is K3, 300.00 and below, this becomes very expensive if they are to satisfy their water needs. Thus watering trees and grass with water bought in containers is not an option for many.

It is also worth noting that most residents complain of poor customer service by the water utility company which also includes poor attendance to faults and leakages. This is also made worse by the water utility company which take too long to reconnect a customer even when payments are made in full. This is a challenge for many residents of Lusaka. The situation makes it impossible to implement the Keep Zambia Clean, Green and Healthy Campaign in residential areas of Lusaka. This means that generally, the residential areas in Lusaka district are mainly characterised by a dry environment with very few houses maintaining the greenery.

## **CHAPTER 6**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **6.1 Introduction**

The previous chapter has revealed that the residents of Lusaka face numerous constraints in the process of the implementation of the Keep Zambia Clean Green and Healthy campaign and, particularly, the green aspect of the campaign. The chapter has particularly revealed that among the numerous constraints are the lack of sensitization, erratic supply of water to Lusaka residents and lack of adequate funding to the local authorities or the councils. This has impacted negatively on the campaign and generally made it a failure as most residential areas in Lusaka district are dry, instead of green.

The purpose of this chapter is to present the conclusions and recommendations of the dissertation. In order to achieve its purpose, the chapter will begin by presenting the conclusions of the dissertation and end with recommendations.

#### **6.2 Conclusions**

The conclusions of this dissertation are presented in accordance with the objectives of the research. The first specific objective of the research was to identify constraints faced by the government in the process of implementing the Keep Zambia Clean, Green and Healthy Campaign in residential areas. The findings show that the government has numerous constraints that require to be addressed if this campaign is to be successful. The central government is supposed to provide oversight, funding and guidance to all local authorities. This includes the provision of funds to the councils for the implementation of the Keep Zambia Clean, Green and Healthy Campaign. However the central government has failed to provide adequate funds, hence not properly playing its role in the campaign. There is also no mention of a separate budget line specifically for this campaign which shows that the campaign is not taken seriously by the central government from whom guidance, funding and oversight is expected.

The campaign has proved to be a challenge and is failing partly because the local authorities also have financial constraints. The local authorities are supposed to be fully funded by the central government to actualise this campaign but the specific funding is not there. Additionally, local council revenue sources such as licensing fees, ground rates charges and revenue from markets provide insufficient funds to cater for the operations of the local authority. The approximately Kwacha Three million local government equalisation fund allocation for Lusaka City Council and the council revenue from other sources put together falls far short of the K16 million monthly wage bill which in this case is a priority for the council. This has led to a situation where council workers have gone for months without salaries. At the same time, the budget for the keep Zambia Clean, Green and Healthy Campaign for the years 2019 for example was K1, 586, 953.00. This situation has left the council with no choice but to allocate funds amounting to less than half of the Keep Zambia Clean, Green and Healthy Campaign budget mainly for the procurement of cleaning materials and personal protective equipment for council workers to be used on the government designated first Saturday of the month. This scenario leaves no money for sensitisation programmes for the residents including the provision of trees and grass and general inspection of premises. Therefore, it is impossible to expect the campaign to be successful without funds.

Also the concept of the green environment has not yet trickled down to the grass root level, which is the ward. This requires sensitisation by the local authorities, an activity that requires funding from the central government. As earlier indicated, this funding is not there hence the grass root level not being sensitised. Lack of funds remains a major challenge faced by the central government, thereby negatively affecting the local authorities. This means that the Ward Development Committees which normally coordinate such activities among the residents are unable to perform their tasks. The implementing actor in this case the councils have failed to implement the campaign because the central Government has also failed to provide guidance and oversight, mainly due to insufficient of funding. Therefore, it is not possible to actualise this campaign.

As already mentioned, the role of the central Government in this campaign is to provide guidance, funding and oversight. By implication, this shows that the campaign is captured by the state as a dominant actor. This has led to a situation where most actors, including the local authority, wait for the central government to provide oversight, guidance and funding, without which the campaign is now failing. This campaign has had constraints because the lead actor, which is the central government, has failed to provide the much needed adequate funding for the implementing actors which are the councils to implement the Keep Zambia Clean, Green and Healthy Campaign. Further, sensitisation of the residents, which is the responsibility of the council, has also been inadequate if it is at all there. Partly this, again, comes down to inadequate funding by the central government. There is also no mention of a separate budget line from the central Government to the Councils for this campaign, while at the same time the mention of inadequate funds is prominent. This shows that there is no much seriousness attached to this campaign by the dominant actor, in this case the government, which is supposed to not only provide guidance but also oversight for the campaign to be successful.

The findings also show that the water utility company has limited capacity as regards the provision of water to the residents of Lusaka. The situation is even made worse by Electricity Load shedding which has led to the water utility company failing to pump adequate water to its customers who are the residents of Lusaka. Further, the water utility company infrastructure in terms of water pipes for Lusaka is not adequate to cover most areas of the city, especially with the growing population and the mushrooming of unplanned settlements. In some cases, the pipes are worn out with numerous leakages, resulting into loss of the already inadequate water. Therefore, with inadequate capacity by the water utility company, it is not possible to actualise the campaign and later on achieve success. The water utility company, as an actor in this case, is not properly playing its part to ensure success of the campaign. In other words, the water utility company has constraints and has failed to provide adequate water to Lusaka residents, leading to the failure of the Keep Zambia Clean, Green and Healthy Campaign. The water utility company has also failed to invest in the water system infrastructure upgrade for Lusaka, vital for improved water supply to residents.

The coming on board of the Millennium Challenge Account Zambia, to implement the US\$355 million Lusaka Water Supply, Sanitation and Drainage (LWSSD) Project, meant to upgrade the water network and capacity, shows that the water utility company faces numerous constraints when it comes to provision of water, to Lusaka residents. It also confirms that the water network upgrade and construction of new water reservoir at Kwamwena, is a huge project, which the water utility company could not fund. With low compliance levels by customers when it comes to paying for their water bills, it would be impossible for LWSC, to find the US\$355 million, needed to fund the project.

The second specific objective of the research was to identify constraints faced by residents in keeping their premises green. The findings show that the majority of the residents do not take part in the Keep Zambia Clean, Green and Healthy Campaign, particularly the green aspect, despite being aware. As already mentioned, the majority of Lusaka residents are in high density areas whose plot sizes are too small with little or no space to plant any trees and grass. This shows that the majority of the residents face constraints of inadequate space around their yard as the remainder of the space around these houses is mainly used to put up more structures for rent so as to earn more revenue. Most of the low incomes earning citizens found in high density areas see putting up more structures for rent on the remaining spaces on their plots as an opportunity to make more money to look after their families, as opposed to planting trees and grass whose maintenance is a cost. The low income levels have remained a challenge for residents, especially in high density areas. The majority of Lusaka residents earn K3, 300.00 or less and have to, in some cases, move a considerable distance to buy water in containers or drums at high prices. This means that the majority of the residents do not have adequate water to cater for watering of trees and grass.

Further, the residents of Lusaka have constraints when it comes to access to water supply. The water supply to Lusaka residents by the water utility company is erratic and in some areas completely not there. This makes it impossible for anyone in the high density areas to plant trees and grass that will require watering. As already mentioned, in some areas there is completely no water with the whole street without

even water pipes, while other streets have water on selected houses as communal taps. This is one of the constraints that the residents face and has led to the failure of the Keep Zambia Clean Green and Healthy Campaign. Lusaka residents are also faced with poor customer service which can be evidenced by the complaints against the water utility company whom residents accuse demanding payment even if the water was not supplied for even two months. Additionally, if disconnected, it takes a number of days for a customer to be re-connected, even after full payments has been made. This means that the customers have to remain without the commodity for days, before they can be reconnected, which is a challenge when it comes to the implementation of the Keep Zambia Clean, Green and Healthy Campaign. This has proved to be a big challenge for most residents and shows that the inefficiencies of the water utility company are partly to blame for the failure of the campaign.

The low density areas mainly have reasonably larger plot sizes with enough space to plant green trees and grass. As a result, there are at least a number of residential areas with some planted trees and flowers and also reasonable portions of grass. Therefore, the residents in low density areas face fewer water constraints as opposed to those in high density areas. However, the idea by most households in low density areas to opt to sink boreholes shows that the water utility company has failed to satisfy the demand for water in Lusaka. Since the size of the yards in low density areas are considerably bigger, there is still space for planting some trees, flowers and grass. This means that residents in low density areas face fewer water constraints than those in high density area. Additionally, residents of low density areas have relatively higher incomes as compared to high density areas. This makes it easy for them to pay for their water bills and avoid disconnections, thereby ensuring consistent water supply.

Further, as already outlined, among other factors, the improved water supply in low density is mainly due to the fact that the low density areas house the top political and civil elite. These include leaders at national level such as the President, Cabinet Ministers, Permanent Secretaries, Directors in government Departments, Heads of Parastatal institutions to mention but a few. The political and civil elite are policy makers who cannot deny themselves the amenities that make life and living tolerably

comfortable. Additionally, residences of important foreign dignitaries such as the high commissioners and ambassadors representing their countries in Zambia are all in low density areas. This would be a serious embarrassment for the country. Therefore, the Zambian government intent on painting a positive picture to the outside world, tries to provide the best environmental services, including adequate water, to these residential areas. Hence, at all costs water supply is not only assured but consistent while faults are attended to promptly. Furthermore, most foreign embassies tend to have their own funds, provided by their own governments, to improve their residential surroundings, including adequate water provision to develop verdure and general cleanliness. These factors tend to give credence to the claim that in low density areas of Lusaka district, the campaign for a clean, green and healthy environment is relatively successful. This has resulted in little or no water supply constraints in low density areas.

In medium density areas, the situation is slightly different as most household are heavily dependent on council water. The area also has an improved water network and supply as compared to the high density areas. This has resulted in a much better water supply system as the area has well established water pipes and a well organised water network system. This can also be attributed to the fact that most medium density areas are planned settlements, hence a good and planned water supply network as opposed to high density areas which are mainly shanty compounds. Therefore, the residents of medium density areas face fewer water constraints as opposed to high density areas. However, despite having the required water supply network, the challenge of dry water taps remains a reality, especially in times of load shedding by the electricity supply company as the water utility company is unable to pump and supply water during such times. This is made worse by the fact that unlike low density areas, most residents do not have personal boreholes and totally depend on the water utility company. This again remains to be a challenge for the residents of medium density areas.

The general objective of the research was to identify constraints faced in the implementation of the Keep Zambia Clean, Green and Healthy Campaign in

residential premises in Lusaka District. In this regard, the general conclusion is that the green aspect of the Keep Zambia Clean, Green and Healthy Campaign has failed due to government's failure to adequately fund the campaign which has led to the implementing actor, in this case the councils, to fail to implement the campaign especially through sensitisation programmes as well as inspections of premises. This has resulted in most residential areas of the city to be dry, instead of green. On the other hand, the water utility company has made the situation worse by failing to satisfy the residents with water due to load shedding by the electricity supply company. This has resulted in the Keep Zambia Clean, Green and Healthy Campaign achieving little or no success. Very few households have grass and trees with the majority of the residents not watering their grass and trees due to numerous constraints ranging from erratic water supply to completely dry taps and low income levels. This shows that the campaign has failed. This is another challenge hindering the success of the Keep Zambia Clean, Green and Healthy Campaign.

The number of residents who are not aware of the campaign is also evidence enough to show that the problem of lack of sensitisation is a big challenge. Almost half of the residents who are not aware of the campaign are far too high a statistic to be ignored. The majority of those not aware are mainly in high density areas where income levels are much lower than in both medium and low density areas. This is another challenge that has led to the failure of the Keep Zambia Clean, Green and Healthy Campaign.

### **6.3 Recommendations**

The recommendations are in two categories. These are policy recommendations and areas for future research.

#### **6.3.1. Policy Recommendations**

To ensure that the Keep Zambia Clean, Green and Healthy Campaign is effective, the following recommendations should be considered by the policy makers at the national level, being the Ministry of Local Government, Lusaka City Council, Lusaka Water and Sewerage Company and the residents of Lusaka district:

1. The government, through the Ministry of Local Government and housing, should consider coming up with a separate and specific budget line for the implementation of this campaign by local authorities. Additionally, funds allocation to local councils as regards this campaign should be released timely and adequate to avoid failure.
2. The Ministry of Local Government should periodically bring all stakeholders together to understand their constraints so as to see how best to help them in form of advice, material and financial support.
3. The Government, through the Ministry of Local Government should engage ZESCO to find ways of reducing load shedding to allow LWSC to pump enough water to the residents of Lusaka.
4. The Lusaka City Council should consider activating their ward development committees and use them to sensitise the local people on the importance of maintain a green environment
5. The Lusaka City Council should consider engaging various media houses to sensitise Lusaka residents, including social media on the importance of maintaining the greenery.
6. The Lusaka Water and Sewerage Company should upgrade their water system in order to improve the water supply to Lusaka residents. The upgrade should include replacing worn out pipes to avoid leakages and construction of new water lines, especially in high density areas and thereafter connect more residential premises.
7. The Lusaka Water and Sewerage Company should also consider revising downwards the amount of money it charges its customers for water to allow the low income earner afford the commodity.

### **6.3.2 Areas for future research**

Although this research has provided valuable insights into the constraints faced in the implementation of the Keep Zambia Clean, Green and Healthy Campaign, it did not cover the industrial or commercial areas such as company premises, shopping malls and office blocks. This could be the area of focus for future research.

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**Appendix A: Interview Guide for Lusaka Water and Sewerage Company officials**

Dear informant,

My name is Peter Nyakalale and I am a student at the University of Zambia. I am conducting a research on the Effectiveness of the keep Zambia Clean, Green and Healthy Campaign in promoting a green environment: The case of residential premises in Lusaka District. This is to enable me to partially fulfil the requirements of the degree of Master of Public Administration (MPA).

You have been selected as an informant and I will be very thankful if you can spare a few minutes of your time to answer a few questions. The information you are going to give will be confidential and is entirely for the purpose of my MPA dissertation. Please be as open and as honest as possible in answering the questions.

**BACKGROUND INFORMATION**

Date of interview:

.....

Start time of interview:

.....

1. Name of organization

.....

2. Position held in the organization.

.....

3. Gender:

1. Male ( )

2. Female ( )

**KEEP ZAMBIA CLEAN, GREEN AND HEALTHY CAMPAIGN**

4. Is your organization involved in the Keep Zambia Clean, Green and Healthy Campaign in residential areas?

1. Yes ( )

2. No (Skip to Q 6)

5. If yes, what is the role of your organization?

.....  
.....

6. If no to Q 4, why?

.....  
.....

7. What constraints do you face in the process of implementing the Keep Zambia Clean, Green and Healthy campaign in residential areas in Lusaka?

.....  
.....

8. What is the level of compliance by Lusaka residents in paying for their water bills?

.....  
.....

9. In your view, is the water supplied to the residents of Lusaka adequate to cater for their needs including watering grass, flowers and trees?

1. Yes (skip to Q 11)

2. No ( )

10. If no to Q 9, why don't you provide adequate supply?

.....  
.....

**RECOMMENDATIONS**

11. What do you think should be done to improve your role in the implementation of the Keep Zambia Clean, Green and Healthy Campaign in residential areas?

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

End time of interview.....

Duration of interview.....  
.....  
.....

**End of interview**

**Thank you for your time**

**Appendix B: Interview Guide for Ministry of Local Government, Lusaka City Council and Zambia Environmental Management Authority officials**

Dear informant,

My name is Peter Nyakalale and I am a student at the University of Zambia. I am conducting a research on the ‘Constraints faced in the implementation of the keep Zambia Clean, Green and Healthy Campaign in promoting a green environment: The case of residential premises in Lusaka District’. This is to enable me to partially fulfil the requirements of the degree of Master of Public Administration (MPA).

You have been selected as an informant and I will be very thankful if you can spare a few minutes of your time to answer a few questions. The information you are going to give will be confidential and is entirely for the purpose of my MPA dissertation. Please be as open and as honest as possible in answering the questions.

**BACKGROUND INFORMATION**

Date of interview:

.....  
.....

Start time of interview:

.....  
.....

1. Name of organization

.....  
.....

2. Position held in the organization.

.....  
.....

3. Gender:

1. Male ( )

2. Female ( )

**IMPLEMENTATION OF THE KEEP ZAMBIA CLEAN, GREEN AND HEALTHY CAMPAIGN**

4. Who are the stakeholders in the implementation of the Keep Zambia Clean, Green and Healthy Campaign in residential areas?

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

5. What is the role of each stakeholder in this campaign?

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

6. Is your organization involved in the Keep Zambia Clean, Green and Healthy Campaign in residential areas?

- 1. Yes ( )
- 2. No (Skip to Q 8)

7. If yes, what is the role of your organization?

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

8. If no to Q 6, why?

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

9. What constraints do you face in the process of implementing the Keep Zambia Clean, Green and Healthy campaign in residential areas in Lusaka?

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

**RECOMMENDATIONS**

10. What do you think should be done to improve your role in the implementation of the Keep Zambia Clean, Green and Healthy Campaign in residential areas?

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

End time of  
interview.....

.....

Duration of  
interview.....

.....

**End of interview**

**Thank you for your time**

## **Appendix C: Questionnaire for Lusaka Residents**

Dear respondent,

My name is Peter Nyakalale and I am a student at the University of Zambia. I am conducting a research on the 'Constraints faced in the implementation of the keep Zambia Clean, Green and Healthy Campaign in promoting a green environment': The case of residential premises in Lusaka District. This is to enable me to partially fulfil the requirements of the degree of Master of Public Administration (MPA).

You have been selected as an informant and I will be very thankful if you can spare a few minutes of your time to answer a few questions. The information you are going to give will be confidential and is entirely for the purpose of my MPA dissertation. Please be as open and as honest as possible in answering the questions.

**Instructions:** Tick in the spaces provided or fill in the blank spaces.

### **BACKGROUND INFORMATION**

1. Sex of household head
  1. Male ( )
  2. Female ( )
2. Marital status
  1. Married ( )
  2. Single ( )
  3. Widowed ( )
3. Age of household head
  1. Below 18 years ( )
  2. 18- 25 years ( )
  3. 26-35 years ( )
  4. 36-45 years ( )
  5. 46-60 years ( )
  6. 61 and above ( )
4. Highest level of Education
  1. Never been to school ( )

2. Primary school level ( )
3. Junior secondary school ( )
4. Senior secondary school ( )
5. Tertiary education ( )
5. Family size
  1. 3 or less ( )
  2. Between 4 and 6 ( )
  3. Between 7 and 9 ( )
  4. Between 10 and 12 ( )
  5. Between 13 and 15 ( )
  6. Above 15 ( )
6. Plot size
  1. low cost (20m \* 20m) ( )
  2. medium cost (21m \* 21m – 39m \* 39m) ( )
  3. High Cost (40m \* 40m and above) ( )
7. Type of residential area
  1. Low Density ( )
  2. Medium Density ( )
  3. High Density ( )
8. Income per month in *Zambian kwacha*.
  1. K3, 300.00 and below
  2. K3, 300.01 – K4, 100.00
  3. K4, 100.01 – K6, 200.00
  4. K6, 200.00 and above

## **WATER SUPPLY**

- 9 Availability of water per day.
  1. 19 – 24 hours ( )
  2. 13 – 18 hours ( )
  3. 07 – 12 hours ( )
  4. 01 – 06 hours ( )

10. Source of water

- 1 Local council ( )
- 2 Personal borehole ( )
- 3 Both council and personal borehole ( )
- 4 Shallow wells ( )
- 5 Stream ( )

11. What time of the day is water usually available?

- 1 Whole day ( )
- 2 Morning ( )
- 3 Afternoon ( )
- 4 Evening ( )
- 5 Night ( )

12 Are you satisfied with the quality of services provided by your water utility company?

- 1. Yes (Skip to Q 14)
- 2. No ( )

13 If no, what is wrong with the supply?

.....  
.....

14 Are you satisfied with the cost of water supply?

- 1. Yes (Skip to Q16)
- 2. No ( )

15 If no to Q 14, what is wrong with the cost?

.....  
.....

16. How much do you pay for your water in Zambian Kwacha per Month?

.....  
.....

**IMPLEMENTATION OF THE KEEP ZAMBIA CLEAN, GREEN AND HEALTHY CAMPAIGN**

17. Are you aware of the keep Zambia Clean, Green and Healthy Campaign?

- 1. Yes ( )
- 2. No ( )

18. Are there trees around your house?

- 1. Yes (Skip to Q 20)
- 2. No ( )

19. If no to Q 18, why?

.....  
.....

20. If yes to Q18, how many trees do you have?

- 1. Less than 6
- 2. 6 – 10
- 3. 11 – 15
- 5. Above 15

21. How often do you water the trees?

- 1. Every day ( )
- 2. 2 – 3 days per week ( )
- 3. 4 – 7 days per week ( )
- 4. Once a week ( )
- 5. Rarely ( )
- 6. Not at all ( )

22. If watering is not every day, why is it so?

.....  
.....

23. Is there grass around your house?

1. Yes (Skip to Q 25)
2. No ( )

24. If no to Q 23, why?

.....  
.....

25. If yes to Q 23, what portion of your yard is covered by grass?

1. Below 10%
2. 10 – 19%
3. 20 – 29%
- 4 30 – 39%
- 4 40 – 49%
- 5 50 – 59%
- 6 60 and above

26. How often do you water the grass?

1. Every day ( )
2. 2 – 3 days per week ( )
3. 4 – 7 days per week ( )
4. Once a week ( )
5. Rarely ( )
6. Not at all ( )

27. If water is not every day, why?

.....  
.....

**RECOMMENDATIONS**

28. What do you think should be done to ensure availability of trees at your plot?

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

29. What do you think should be done to ensure availability of grass at your plot?

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

**End of interview**

**Thank you for your time**