UNIVERSITY *of the* WESTERN CAPE

DISASTER PREPAREDNESS AND ADMINISTRATIVE CAPACITY OF THE

DISASTER RISK MANAGEMENT CENTRE OF THE CITY OF CAPE TOWN

Martha Nthambi Kabaka (2912856)

Supervisor: Prof Chisepo J. J. Mphaisha

A Research Mini-Thesis Submitted to the School of Government, Faculty of Economic and Management Sciences, University of the Western Cape, in partial Fulfillment of the Requirements for the Degree of Master of Public Administration

March, 2013

DECLARATION

I, the undersigned, hereby declare that this mini-thesis *Disaster Preparedness and Administrative Capacity of the Disaster Risk Management Centre of the City of Cape Town* is my own work and that I have not previously submitted it to any other university for a degree. All the sources that I have quoted have been indicated and acknowledged by means of references.

Signature_____Date _____

UNIVERSITY *of the*
WESTERN CAPE

DEDICATION

This research is dedicated to my parents, Mr Anselemy Kabaka and Mrs Yula Kabaka, who raised me in love and with the light of education, for which they never had the opportunity due to poverty.

ACKNOWLEDGEMENTS

ACRONYMS

CoCT   City of Cape Town

COCTMDMF   City of Cape Town Municipal Disaster Risk Management Framework

CoCT DRMC   City of Cape Town Disaster Risk Management Centre

DMA   Disaster Management Act

DRMC   Disaster Risk Management Centre

DOC   Disaster Operations Centre

DRMC   City of Cape Town Disaster Risk Management Centre

GRF   Global Risk Forum

HoC   Head of the Centre

ICT   Information Communication Technology

IDP   Integrated Development Planning

IDNDR   International Decade for Natural Disaster Reduction

KPA   Key Performance Areas

MDMF   Municipal Disaster Risk Management Framework

NDMF   National Disaster Management Framework

PDMF   Provincial Disaster Management Framework

PGWC   Provincial Government of the Western Cape

SOP   Standard Operating Procedure

UNISDR   United Nations International Strategy for Disaster Reduction

WCPDMF   Western Cape Provincial Disaster Management Framework

WCP   Western Cape Province

WCDMC   Western Cape Disaster Management Centre

WCICDM   Western Cape Intergovernmental Committee on Disaster Management

WCDMAF   Western Cape Disaster Management Advisory Forum

LIST OF FIGURES

UNIVERSITY *of the*

WESTERN CAPE

LIST OF TABLES

UNIVERSITY *of the*

WESTERN CAPE

ABSTRACT

The occurrence of disasters around the world has in the past few decades increased at an alarming rate, which has necessitated an urgent need for mitigation strategies. As part of its planning and precautionary measures in responding to disasters, the City of Cape Town (CoCT) established a Disaster Risk Management Centre (DRMC) to co-ordinate such occurrences. This study is focused on investigating to what extent the CoCT's DRMC has prepared individuals and communities to stay resilient.

South Africa lies within a region of Southern Africa that has a semi-arid to arid climate, thereby making most parts of the country vulnerable to numerous disasters. Given the prevalence of the localised disasters in the country, they have the potential to overwhelm the capacity of any affected community. Furthermore, in 2011, the CoCT was approached by the International Council for Local Environmental Initiatives(ICLEI) to sign up as a Role Model City for the "Making Cities Resilient--My City is Getting Ready'' Campaign, in collaboration with UNISDR. It became the first in South African City to be granted "Role Model City'' status, becoming the second African city to be designated as a ''Role Model City''.

The findings of this study indicate that the CoCT, through its DRMC, has tried to heighten awareness in communities to prepare them against disasters. Another important finding is that there is inadequate involvement of communities in CoCT training programmes. Poorer communities, which are mostly affected by disasters, barely receive any form of capacity building, that is, through training. In addition, the language of communication used in

brochures, leaflets and other forms of media is mostly in English and Afrikaans, while the majority of people living in informal settlements speak isiXhosa. The study provides an insight into the need to consolidate strategies to address disaster management

Key Terms: *Disaster Management, Disaster Preparedness, Administrative Capacity, Integrated Development Plans, Disaster Management Response, Disaster Management Recovery, Municipal Disaster, Management, Disaster Mitigation, Disaster Hazards, Disaster Risk Assessment*

TABLE OF CONTENTS

CHAPTER ONE: INTRODUCTION TO THE RESEARCH

1.1 Introduction

This chapter presents the key aspects of the research by explaining why the City of Cape Town Disaster Risk Management Centre (CoCT DRMC) has been chosen as the site for a case study. The chapter gives a survey of the current context in which the research study is undertaken to provide the background to this study and outlines the case study approach. It also provides the problem statement and the objectives of the study. This is followed by the review of literature in relation to the research and concludes by providing the limitations of the study.

1.2 Background to and Rationale of the Research

The Disaster Risk Management Centre of the City of Cape Town has been chosen for the case study through which to elucidate the issue. I, the researcher, chose the DRMC for several reasons. Firstly, Cape Town is the only city in South Africa to be granted "Role Model City" status (Pillay, 2011). In addition, it is the second city in Africa to be granted such status. Despite this recognition, Cape Town is disaster prone, with several disasters ravaging it throughout each year, making it a suitable case study area. In addition, the city has also been faced with an influx of local people migrating from different provinces as well as immigrants from other African countries, leading to the growth of ubiquitous informal settlements. Furthermore, very little academic research has been done in the area of disaster management either in South Africa or elsewhere on the whole African continent. Through

this study, I hope to contribute positively towards effective and efficient response to disaster in Africa.

The Disaster Risk Management Centre (DRMC) is a unit in the Emergency Services Department of the CoCT. The mandate of the Emergency Services Department is to make sure that the population of the City of Cape Town is not threatened by an unsafe environment. An unsafe environment would directly or indirectly result in failed socio-economic development. For the Emergency Services Department to fulfil its mandate, it was subdivided into sections, of which the DRMC is one. This gives an indication of how important its role is in ensuring a safe city (Bosman, 2010).

The DRMCs main mission is to manage disaster risks efficiently in all communities by preventing or mitigating disasters and softening disaster impact where prevention is impossible. The service delivery areas are as follow
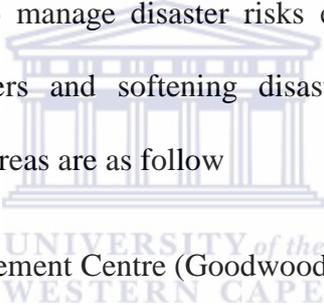
a) One Disaster Risk Management Centre (Goodwood: Head Office) and

b) Four District Offices, namely,

- Area 1: North (Brackenfell),

- Area 2: West (Civic Centre, Cape Town),

- Area 3: Central (Ottery, which includes the training centre)

- Area 4: East (Melton Rose).

(City of Cape Town, 2012)

The DRMC is further divided into five branches: Disaster Risk Management; Fire and

Rescue Service; Public Emergency Communication Centre and support services; and

Ambulance Service (Agency Function), whose operational responsibility is with the Provincial Government of the Western Cape (PGWC) (City of Cape Town, 2012).

1.3 Statement of the Problem

The CoCT is generally prone to localised disasters that occur throughout the year. Such disasters range from fires to floods to traffic accidents. The recurrence of disasters in the past decade, especially in informal settlements, has resulted in communities blaming the government for their fate. Questions on why the local municipality has failed to sort out the problems are always raised. Disasters have caused death, injury or diseases; damage to property, infrastructure or the environment; or disruption of the life of the communities. Disastrous events have proved to be of magnitudes that exceed the ability of those affected to cope with them. The worst affected in the CoCT are mostly the poor, who usually live in informal settlements, where service delivery is a major issue.

This raises questions on the capability of the DRMC of the CoCT as it is tasked with responding to disasters effectively and efficiently. In this regard, the research assumptions were as follow:-

- The DRMC is not well prepared to respond to disasters within the CoCT
- The DRMC lacks proper personnel, equipment and technology to implement its programmes and projects
- There is limited funding to manage the activities of the DRMC
- The existing legislative policies are not easy to implement on the ground.

Taking into consideration the above assumptions, the study will be conducted to seek to address the following major research question: *To what extent, and with what results, has the Disaster Risk Management Centre of the City of Cape Town adhered to its mission and lived up to expectations since its establishment in 2005*?

1.4 Study Objectives

The study was guided by the following specific objectives in order to address the above research question:

- To examine the disaster management policy and legislative policy framework of the City of Cape Town.

- To examine the disaster management policy and implementation strategy of the City of Cape Town. This analysis will highlight the policy priorities of the CoTC in the area of disaster management.

- To analyse the operations of the DRMC since its inception in 2005.

- To make policy recommendations which, if adopted, might help to improve the future operations of the DRMC.

1.5 Literature Review and Related Concepts

Disasters can be described as any occurrence of activities that pose serious threats to the health of communities by disrupting the normal way of lives or even causing casualties (Eyre, Fertel, Fisher. & Gunn, 2001; United Nations, 2004). Davis and Seitz (1982:547) defined disasters as extraordinary physical events that attain human significance through the socio-political contexts in which they occur. In addition, there is always a need to realise that what exceeds the coping capabilities of one society may be commensurate with those of another and, hence, that physically similar occurrences may exhibit widely different effects from place to place (Davis & Seitz, 1982).

The South African Constitution states that a *disaster* is regarded as a progressive or sudden, widespread or localised, natural or human-caused occurrence which causes or threatens to cause death, injury or disease, damage to property, infrastructure or the environment; or disruption of the life of a community; and is of such a magnitude that it exceeds the ability of those affected by the disaster to cope by using only their own resources (South Africa, 2002). This definition is inclusive because it takes into account the actual occurrence, its causes and its effects. Dilley (2006:2217) argued that disasters are caused by the exposure and vulnerabilities to natural hazards of people, infrastructure and economic activities. The above mentioned authors of the literature on the topic concurred with the opinion that disasters, whether natural or man-made, disrupt people's lives and can occur in any given locality.

Zamani et al. (as cited by Berren., Santiago., Beigel, & Timmons, 1989: 3) argued that trying to uncover the complex reality of disasters is difficult as they defy geographical, social, and cultural boundaries. Although disasters share common consequences, there are important differences as well, depending on the features of the disaster. Disasters can be classified according to a number of criteria, such as type (natural or human induced), low-point versus no low-point (a specific time frame "worst moment" or not), scope (geographically localised or diffuse), size (community size and availability of community resources) and the degree of social impact on the affected community. Over the past 21 years, research has shown that some countries are more at risk than others; those at high vulnerability to earthquakes, for example, include Armenia, the Islamic Republic of Iran, Turkey, India, Italy, Algeria and Mexico, while those countries whose mortality in relation to exposure suggest relatively low vulnerability include Chile, the United States of America, Argentina and Germany (Dilley, 2006:2220). Kesavan and Swaminathan (2006:2192) supported this argument by pointing out

that poor nations are most prone to natural disasters because of their minimal coping capacity.

In addition to the above positions, Quarantelli (1998) stated that, in contemporary academia, disasters are understood as the end result of hazards on exposed areas; for instance, hazards that occur in areas with low vulnerability do not result in a disaster; as is the case in uninhabited regions. Figure 1 below demonstrates how the occurrence of an earthquake becomes a disaster because of the exposed or vulnerable structures in the area. In this case, it can be concluded that the structures were built in a previously uninhabited island, making them and the people vulnerable. For the purpose of this study, disaster is regarded as an occurrence that disrupts people's normal lives as well as the environment. Understanding the term *disaster* will assist in guiding the study.

Figure 1: Occurrence of an earthquake becomes a disaster: (Source: Global Risk Forum, 2010).

Disaster management refers to a continuous and integrated multi-sectorial, multidisciplinary process of planning and implementing of measures aimed at preventing or reducing the risk of disasters; mitigating the severity or consequences of disasters; emergency preparedness; rapid and effective response to disasters; and post-disaster recovery and rehabilitation (South Africa, 2002). It is therefore an endeavour to deal with disaster and to avoid risks. It is a process that entails preparing, supporting, and rebuilding society when natural or human-made disasters occur. In general, it is the continuous process by which all individuals, groups, and communities manage hazards in an effort to avoid or ameliorate the impact of disasters resulting from the hazards. Warfield (2008:15) maintained that, "disaster management aims to reduce, or avoid the potential losses from hazards, assure prompt and appropriate assistance to victims of disaster, and achieve rapid and effective recovery". Actions taken depend in part on perceptions of risk of those exposed. In this study, effective emergency management relies on thorough integration of emergency plans at all levels of government and non-government involvement. The authors of a United Nations report (2004:17) agreed with the above explanations by stating that disaster management is the "ability to systematically administer relevant decisions within an organisation, as well as operational skills and capabilities to implement laid down policies and strategies".

Himayatulla and Abuturab (2008:5) defined *disaster risk management* as the sum total of all activities, programmes and measures which can be taken up before, during and after a disaster with the purpose of avoiding a disaster, reducing its impact or recovering from its losses. The three key stages of activities that are taken up within disaster risk management are diagrammatically illustrated below:
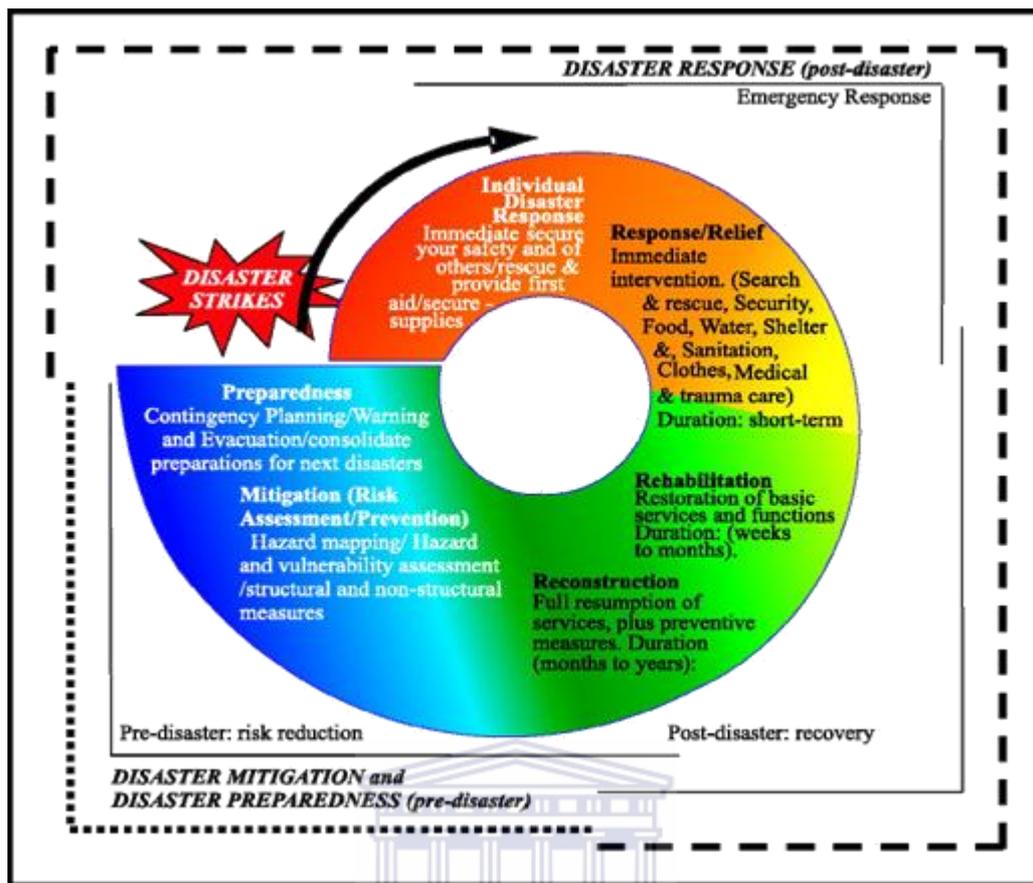
Figure 2: Stages of activities within disaster risk management. Source: Himayatullah & Abuturab (2008:5)

Himayatulla and Abuturab (2008) noted that *pre-disaster activities* are those which are undertaken to reduce human and property losses caused by a potential hazard. For example, carrying out awareness campaigns, strengthening the existing weak structures, and preparing disaster management plans at household and community level. Such risk-reduction measures taken at this stage are termed *mitigation and preparedness activities*. During a disaster, these include initiatives taken to ensure that the needs and provisions of victims are met and suffering is minimised. Activities taken at this stage are called *emergency response activities*. *Post-disaster activities* refer to initiatives taken immediately after a disaster strikes, and in

8

response to a disaster, with the purpose of achieving early recovery and rehabilitation of affected communities. These are referred to as *response and recovery activities*.

The Disaster Risk Management Cycle (DRMC) diagram outlines the range of initiatives which normally occur during both the emergency response and recovery stages of a disaster. Some of these cut across both stages, whilst other activities are unique to each stage. The implication to this study is that disaster risk management is holistic and takes into consideration all stages in the process of responding to disasters.

Disaster preparedness refers to prior preparation and clear action plans in anticipation of a disaster. Common preparedness measures may include communication plans, written in easily understandable language. Others include chain-of-command development, practice of multi-agency co-ordination; training of emergency services development; emergency shelters and evacuation plans; and maintenance of supplies and equipment (Wilhite, 1997; United Nations, 2004). Wilhite (1997) indicated the importance of setting up an efficient emergency operation centre during disaster preparedness. Another preparedness measure is considered to be developing a volunteer response capability among civilian populations. Since volunteer response is not as predictable as professional response and cannot be planned, volunteers are most effectively deployed on the periphery of an emergency. Despite the fact that preparedness is crucial, it is never treated with the necessary seriousness by communities, institutions and individuals (Sutton & Tierney, 2006).

To examine disaster preparedness in this study, I needed to look at any existing plans in place at the DRMC of the CoCT. These were analysed by looking at what each plan entails. In addition, programmes and projects in place to mitigate disasters were also analysed.

Disaster preparedness reflects on the administrative capacity of an entity. *Administrative capacity* as a concept implies the institutional capability to develop plans and implement such plans. Certain policies, operations, or other measures to accomplish community needs must also be put in place (Honadle, 1981). The United Nations (2004:16) stated that *capacity* may include physical, institutional, social or economic means as well as skilled personal or collective attributes such as leadership and management. This implies that, to determine administrative capacity, certain aspects have to be measured and assessed within an organisation. These measurements may include; mission, objectives and goals. Other aspects to be considered include decision-making management which provides clear vision of the organisation's mission as well, as the legal framework documentation that is in place (Levinger & Bloom, n.d.).
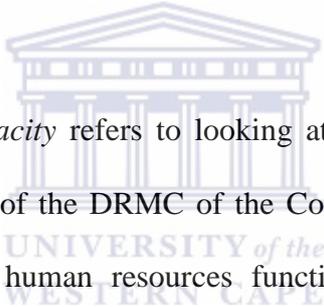
In this study, *administrative capacity* refers to looking at certain key aspects that achieve smooth and successful operation of the DRMC of the CoCT. These include plans to guide performance and organisational human resources functions (staffing and reporting; the duration of employment of the top management and volunteer co-ordinators; utilisation of equipment and technology; information management and communication; networks and co-ordination opportunities; stakeholder participation and financial resources [budgets] and the challenges and strengths that face service delivery of the DRMCs).

1.6 Methodology of the Study

In this research, a case study approach was adopted. A case study, according to Yin (1984:23), is defined as empirical research that examines a contemporary phenomenon within its real-life context. In addition, the case study method is an approach to studying a social

phenomenon through a thorough analysis of an individual case. Through reports of past studies, a case study gives a researcher an opportunity to explore and understand complex issues (Zainal, 2007). Kothari (2004) explained that the case study method is a form of qualitative analysis where careful and complete observation of an individual or a situation or an institution in done. According to Babbie and Mouton (2001), qualitative research design studies human actions in a natural setting and through the eyes of the actors themselves. Qualitative data gathering methods may include observation, focus group discussions and semi-structured interviews. Qualitative methods encourage greater discussion and involvement of the respondents. Furthermore, qualitative tools allow information to be collected on complex issues, generating useful insights into a community and its dynamics (Casley & Kumar 1988:5; Stern, Coe, Allan, & Dale, 2004:95).The qualitative research methods used in this investigation included semi-structured interviews in the form of open-ended questionnaires and direct observation. In this research, the case study was an intensive investigation of a particular unit, which was the DRMC of the CoCT. Numerous diverse features of the case were examined in great depth.

1.6.1 Data collection

The case study relied on data collected from published research in the form of: organisational documents; government publications and websites; online journals; training manuals; and reports by other organisations relevant to disaster management. Data was also collected from 10 top management teams and 10 volunteer co-ordinators, using open-ended interview questionnaires. Furthermore, 105 closed-ended questionnaires were distributed to high school learners. Below is a broad discussion of data collection techniques.

1.6.2 Semi-structured interviews

Flick (1998) noted that certain open-ended questions must be used in the interview situation as a form of interview guide. Research was conducted by distributing 20 semi-structured interview questionnaires to top management and volunteer co-ordinators. A questionnaire is a tool for extracting data from several units for the purposes of study. According to Kothari (2004), a questionnaire is composed of questions typed and arranged in a certain order and therefore distributed to the respondents using an agreed form of distribution. Distribution in this research was in the form of hard copies that were distributed and later collected by the researcher after two weeks. A total of 10 questionnaires were administered to the top management of DRMC, which represents 100% of the management. The questionnaires were divided into four major sections (institutional capacity, networks and co-ordination opportunities, capacity and implementation, and strengths and challenges), each containing approximately 10 questions. In addition, 10 volunteer co-ordinators also responded to questionnaires composed of 10 open-ended questions. They represented the approximately 360 members belonging to established volunteer corps units. The volunteer co-ordinators' sets of questions and content were relatively similar to that of the top management ones. The respondents were encouraged to give as much information as possible. Informal interviews were also held with staff at DRMC throughout the research period. Of the 105 high school learners who participated in the public awareness programme and were given questionnaires, 92 completed the questionnaire.

1.6.3 Secondary sources

Secondary sources are sources of data that have been collected by others and may not be perfectly suited to the research questions at hand (Harris, 2001:2). Secondary data collection methods for this research included information from published research in the form of organisational documents, government publications and websites, online journal, and reports by other organizations, relevant to disaster management.

1.7 Limitations to the Study

There were some limitations in the process of executing this study:

- First, this is a small-scale form of case study, and hence, the findings may not be generalisable to other municipalities.

- Second, the DRMC has been in existence since 2005, although disaster matters previously fell under civil protection/defence. Therefore, the researcher did not discuss in detail the transition of civil defence/civil protection to DRMC.

- Third, since a case study is a form of investigation, a different researcher may decide to focus on different data on the same case; hence, the findings may vary.

1.8 Ethics Statement

Once the University of the Western Cape Senate and the School of Government had approved the research proposal, I, as the researcher, proceeded with the development of the mini-thesis. It was the researcher's responsibility to handle all the information gathered with sensitivity and confidentiality. The researcher also endeavoured, as far as possible, to adhere to the

ethics of data collection, especially when handling semi-structured interviews and in the formulation of questionnaires, by respecting any information provided and not distorting any of it. Full confidentiality and anonymity was guaranteed to everyone involved in providing the information requested. The findings of the study will be submitted to the relevant authorities: the University of the Western Cape and the City of Cape Town Disaster Risk Management Centre.

CHAPTER 2: LEGISLATIVE AND POLICY FRAMEWORK OF DISASTER MANAGEMENT

2.1 Introduction

An increase in research has resulted in considerable advances in understanding the dynamics of disasters internationally. In addition, a greater appreciation has developed for the fact that through better planning and the introduction of alternative development strategies, the risk of disasters will be reduced or even eliminated. Initiatives to harmonise disaster management have called for co-ordination of activities across national boundaries. As a result, this led to the declaration of the International Decade for Natural Disaster Reduction (IDNDR) in 1989. This called on individuals, governments and private sectors across the globe to take an active participation in disaster-related activities (IDNDR, 1989).

International pressure in the mid-1990s led to South Africa adopting more holistic ways of perceiving disaster management. This meant making a shift from the Civil Protection Act 67 of 1977 and the Fund Raising Act 107 of 1978, which were regarded as partial legislation and which failed to fully and comprehensively deal with issues of disaster management, to a more to a more comprehensive and an integrated approach.

In this chapter, I will attempt to examine the legislative framework which forms the foundation of the DRMC. The discussion will be based on the Constitution of South Africa, 1996; the Disaster Management Act 57 of 2002; the Western Cape Provincial Disaster Management Framework (WCPDMF) of 2007; and, lastly, the City of Cape Town Municipal Disaster Risk Management Framework (MDMF). An analysis of these pieces of legislation

will lead to a greater understanding of the current state of DRMC in terms of its capacity as well as the implications associated with the implementation of activities related to disasters.

2.2 The Constitution of the Republic of South Africa, 1996

South Africa's Constitution is regarded as the most liberal in the world, and it is generally argued that it considers all aspects of development for the benefit of all its citizens. In addition, South Africa's political will in relation to DRMC is well demonstrated by the existence of legal enabling statutes. This creates an environment that is reasonably conducive to generating dedicated disaster management organs across the three government spheres (national, provincial and local). The institutional framework, appropriate policy development and legislative codes have resulted from the commitment shared by policy makers. Their aim is simply to work towards achieving a strong disaster management framework in South Africa.
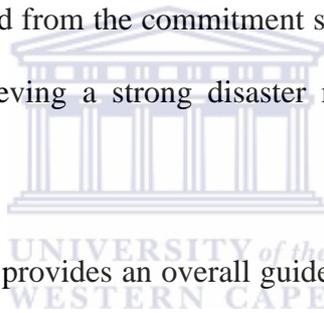
The Constitution of South Africa provides an overall guide and makes it the duty of the state to ensure that the citizens enjoy the benefits at the local level. The state is crucial in disaster management as it provides most of the resources for disasters, when compared to other interested parties, such as the private sector and individuals. Secondly, the government's role is exercised through the provisions provided within the legislation. This understanding therefore gives an indication of the magnitude and importance of the South African Constitution. Chapter 3, Section 40(1) of the constitution provides that the government is "constituted as national, provincial and local spheres which are distinctive, interdependent and interrelated". This implies that these three spheres cannot exist without each other (South Africa, 1996: 25).

Part A of Schedule 4 of the constitution identifies disaster management and related issues such as the environment as functional areas of concurrent national and provincial legislative competencies. This means that both spheres of government have powers and duties to make sure that matters of disaster management are implemented across the country for the benefit of everyone. The local government sphere was not left out in relation to disaster management matters. In part B of Schedule 4 and part A of Schedule 5, the local government has been given powers to deal with a number of functions which relate closely to disaster management. Such matters are fire-fighting services and ambulance services. The literature consulted for this research of the DRMC indicated that the City of Cape Town authority is in charge of such matters in the Western Cape (South Africa, 1996:148-151). Chapter 2 in the Bill of Rights provides for rights to life, equality, human dignity, absence of poverty, healthcare, food, water and social responsibility. This provision is of major importance as local governments are usually the first to respond to disaster occurrences (South Africa, 1996:148-151).
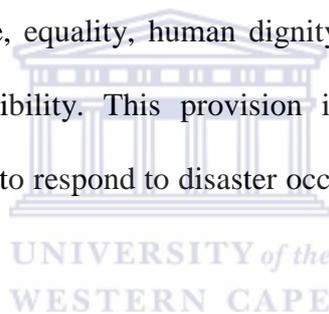
In the CoCT municipality, the DRMC and other government line departments work together to respond to issues relating to disaster management. This is furthermore supported by Section 24 of the Bill of Rights (South Africa, 1996, 7), which requires that environmental issues must be given attention so that every citizen may enjoy his or her right to an environment that is free from any dangers. This also considers both current and future generations in South Africa. In addition to the above, Section 27(3) indicates that everyone is entitled to emergency medical treatment. The DRMC of the CoCT is in charge of responding to emergency calls (South Africa, 1996:11, 13). This is clearly indicated in Section 156(1), which states that local governments are expected to handle matters of fire-fighting, municipal

17

planning and health services. In addition, section 156(4) enables both the national and provincial governments to assign such functions to municipalities. The limitation, however, is that only those municipalities that can offer the services effectively and efficiently are answerable. This is because unless a municipality has the administrative capacity, it is not held responsible to meeting such demands (South Africa, 1996:148-151).

The CoCT is considered to be in a position to implement such disaster management-related matters, which is the reason it established the DRMC. The municipalities do not function alone, and if need be, they are allowed to appeal for any form of assistance from the national and provincial governments. Such assistance would facilitate performance of their duties, as provided under Section 154 of the constitution (South Africa, 1996:87, 88).

2.3 Disaster Management Act 2002 (No. 57 of 2002)

The Disaster Management Act of 2002 (Act No. 57 of 2002) was promulgated into law on 15th of January 2003. In essence, ''the Act provides for an integrated and co-ordinated disaster risk management policy that focuses on preventing or reducing the risk of disasters, mitigating the severity of disasters, preparedness, rapid and effective response to disasters, and post-disaster recovery''(South Africa, 2002:2). An analysis of the Act shows there is an emphasis on a co-ordinated approach to dealing with disasters. In other words, it calls for all stakeholders and various government departments to be part of disaster risk management planning. Besides, it considers the role of communities and the private sector in all stages of the disaster risk management process. The Act also calls for the establishment of national, provincial and municipal disaster management centres.

Section 7(1) provides for the national disaster management framework (NDMF) as the main regulation that oversees consistency across all the disaster management stakeholders from local government to provincial to national sphere. This is achieved by ensuring transparency in the disaster management policy that is in place in South Africa. In this case, the National Disaster Management Framework was published for public comments in May of 2004 and adopted in June 2005. The NDMF is expected to include in its plans the successive development of provincial and municipal disaster management frameworks and other plans which are designed to guide action across all spheres of government (South Africa, 2005). This helps to have a co-ordinated approach, without duplication of duties and misuse of resources.

2.4 Western Cape Disaster Management Framework (WCDMFW)

The Western Cape Disaster Management Framework of 2007 (WCDMFW) is based on two legislations. First, the Disaster Management Act of 2002, which is discussed in Chapter 2, identifies what factors each province should include in its PDMF. This simply means that every province across South Africa has to develop a PDMF (South Africa, 2007:4). Second is the National Disaster Management Framework (NDMF) of South Africa (2005), which, if implemented, is expected to create consistency in the implementation of disaster management across and within all spheres of government across the country. It is on these provisions that the provincial government of the Western Cape established and implemented a framework for disaster management in 2007 (South Africa, 2007:4).

The WCPDMF legislation acknowledges the province as one of the most disaster-prone regions in South Africa, when compared to other provinces. It is also known for its diversity

of ecosystems that range from coastal habitats to semi-arid/arid inland areas to mountain ranges to densely populated urban settlements (South Africa, 2007). The Western Cape Province has a fast-growing metropolitan area, that is, the City of Cape Town, which means an ever-growing population within the metropole, especially in the forms of informal settlements. Consequently, this has created an environmentally fragile city. The framework also takes into consideration that the CoCT is home to a wide variety of essential commercial and government services. Coupled with a multitude of industrial and manufacturing activities, this creates rapid growth in urban areas, which is reflected in the expansion of informal settlements. This is the result of the persistent migration of people into the Western Cape Province in search of better lives (South Africa, 2007:4).

The developmental context for disaster management in the Western Cape is in line with the *iKapa elihlumayo* (the Growing Cape), which is the official framework for the development of the the Western Cape Province. *iKapa elihlumayo's* priority for the entire province is to ensure that social capital is built and to build human capital and enhance economic participation within the province, together with producing good relationships between, and alignment of the initiatives within, the provincial departments. This eliminates duplication as well as ensuring that individual departments add value to each other's efforts. This is in line with requirements of both the Disaster Management Act of 2002 33(1), 38(2), 39(2) and the NDMF (subsections 1.2.3, 3.4.1, and 3.4.2). According to these sections, attention must be given to the integration of disaster management activities into the core business of government departments as well as into spatial and integrated development plans (IDPs). It is on this basis that WCDMF seeks to add value to *iKapa elihlumayo* through its emphasis on

vulnerability reduction in areas such as disaster-prone areas, communities and households (South Africa, 2007:5).

The structure of the WCDMF is consistent with requirements laid down by the Disaster Management Act (DMA, 2002) and the NDMF (2005). This is indicated by the fact that the Western Cape Disaster Management Framework operates within four key performance areas (KPAs), as required by the Act and the NDMF. Three supportive enablers also facilitate achievement of the laid-down objectives set out in the KPAs. In addition, key performance indicators (KPIs) guide and monitor the progress of the process. The key performance areas are as follows:

- KPA 1: There must be established necessary institutional arrangements for implementing disaster risk management within the Province of the Western Cape (South Africa, 2007). This specifically addresses the application of the principles of co-operative governance for the purpose of disaster risk management. In addition, stakeholders' involvement in strengthening the capabilities of provincial and municipal organs of state to reduce the likelihood and severity of disasters is addressed.

- KPA 2 addresses the need for disaster risk assessment and monitoring to set priorities. It also looks at guiding risk reduction actions and monitoring the effectiveness of efforts put in place. Requirements for implementing disaster risk assessment and monitoring by organs of state within provincial and municipal spheres of government are also outlined (South Africa, 2007). If all the Western Cape metropolitan and district municipalities are not supported in

21

to implementing DRMC by the provincial government, such requirements may not be met, as demonstrated in this study.

- KPA 3 pays attention to disaster risk management planning and implementation to inform development. This also includes plans, programmes and projects that reduce disaster risks. Requirements for the arrangement of disaster management frameworks and planning within all spheres of government are also provided here. Specific focus in this key performance area is given to planning for and integration of the core risk reduction principles of prevention and mitigation into on-going programmes and other initiatives (South Africa, 2007).

- KPA 4 outlines implementation priorities concerned with disaster response and recovery and rehabilitation in the province. This simply ensures that there is an integrated and co-ordinated policy that focuses on rapid and effective response to disasters and post-disaster recovery. This policy, therefore, prevents any future confusion in the event of a disaster by describing measures to ensure effective disaster response, recovery and rehabilitation planning (South Africa, 2007).

Enabler 1 focuses on priorities related to addressing the information and communication requirements of the four key performance areas (KPAs). In addition to this, it also ensures that enablers 2 and 3 consider the importance of establishing an integrated communication link. This applies to all disaster risk management role players across the Western Cape Province (WCP). *Enabler 2* describes mechanisms for the development of education and training programmes for DRM and associated professions. It also incorporates relevant

aspects of disaster risk management into primary and secondary school curricula. It is expected to strengthen public awareness and responsibility, priorities and mechanisms for supporting disaster risk research agendas. Lastly, *enabler 3* provides for PDRM funding mechanisms in the WCP. In the analysis of the results of this research, communication links in the DRMC of the CoCT were described as reliable, though more needs to be done (South Africa, 2007). The research results showed that, in the CoCT, public awareness provides special focus on high school learners, compared to primary schools and the public. It is evident that more funding is needed to implement the expectations provided by the WCPDMF on the ground.

When it comes to matters of administering the PDMC, KPA 1 indicates that the premier has all the powers to assign a member of the WCP cabinet to head the administration of the DMA. The premier further establishes a provincial inter-governmental committee that is in charge of ensuring that the PDMF is in line with the national policy framework. The committee is comprised of cabinet members involved in disaster risk management or cabinet members who are involved in administering other national and provincial legislation aimed at dealing with occurrences of disasters, as provided by Section 1 of the Disaster Management Act (South Africa, 2007). The committee is chaired by the minister selected by the premier to administer the Act. The Western Cape Intergovernmental Committee on Disaster Management (WCICDM) must meet at least four times a year. Section 1.1.4 delineates the policy-making process for the Western Cape Province. All recommendations on issues relating to the disaster risk management policy must be submitted to the WCDMC for consideration. For such recommendations to be given priority, the WCDMC must ensure that recommendations include details of any financial, constitutional, human resource and

interdepartmental implications prior to the further processing of the recommendations provided under Section 1.2.4 of the DMA on the Western Cape Disaster Management Centre. This is followed by the WCDMC submission of the recommendations to the Western Cape Disaster Management Advisory Forum (WCDMAF) for consideration and for technical input before submission to the WCICDM, as discussed under Section 1.3.2 of the DMA on the WCDMAF (South Africa, 2007).

Furthermore, due to the multi-sectorial nature of DRM, the WCDMC must submit all memoranda containing policy proposals to the relevant Cabinet and cluster committees for assessment and recommendations before they are submitted to the WCICDM. Any recommendations in respect of the PDMF are submitted to the Western Cape Provincial Cabinet. Those recommendations concerning the NDMF are then directed by the WCDMC to the NDMC for further processing (South Africa, 2007:7-8).

So as to stay on track, key performance indicators include requirements that the WCICDM is established and meets at least quarterly and that appropriate mechanisms and institutional capacity are in place for the execution of the province's constitutional responsibilities in respect of disaster risk management. The WCDMC is also expected to provide secretarial services and maintain accurate records of the WCICDM meetings. It must also ensure that policy matters are processed in accordance with the policy-making process. Thus, to ensure an integrated direction and execution of policy, objectives in place include establishing institutional arrangements that will promote an integrated and co-ordinated approach to disaster risk management in the province; ensure that a DRMC in the province is in place, as required by Section 29 of the DMA; and provide mechanisms for clear direction of the

effective execution of disaster risk management policy. Provisions for adequate operational capacity for the administration of the Disaster Management Act must be in place (South Africa, 2002).

Section 1.2.4 of the WCPDMF provides for the establishment of the Western Cape Disaster Management Centre. The priority of the WCDMC is to make sure that there is effective implementation of the policy and legislative requirements for disaster risk management in the Western Cape. Other responsibilities of the Centre include serving in an advisory capacity to the WCICDM and providing secretarial support for the WCICDM and other provincial forums (Provincial Disaster Management Steering Committee and WCDMAF) established for the purposes of the administration of the DMA (South Africa, 2007:10).

The Western Cape Disaster Management Centre is expected to make sure that such outputs are achieved and that they include the following requirements:
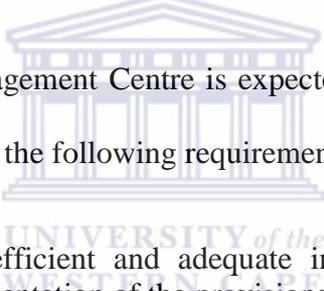
1. ensuring that there are efficient and adequate institutional arrangements for the administration and implementation of the provisions of the Disaster Management Act;

2. commissioning the development of current and relevant disaster risk profiles, according to priorities within the province;

3. ensuring that disaster risk assessment is carried out, preparing a disaster risk management plan for the province, and submitting the same to the NDMC and to neighbouring PDMCs;

4. playing a part in mobilisation of provincial infrastructure and resources so as to support the MDMC when need be, especially in the event of a local disaster;

5. establishing of joint standards of practice for disaster risk management in the province that are consistent with national standards;

6. establishing of mechanisms to facilitate and monitor progress with the development, integration and implementation of priority risk reduction strategies, programmes and projects by provincial organs of state for risks affecting the province;

7. facilitating and monitoring the progress of development of integrated response and recovery plans of provincial organs of state;

8. developing the capacity to provide consultative and advisory services on disasters and disaster risk management;

9. establishing and maintaining of a comprehensive communication and information management system for the province;

10. facilitating and monitoring progress with the development of municipal disaster risk management plans and their integration into the IDP;

11. facilitating the development of public awareness programmes for the province and promoting risk-avoidance behaviour to ensure public awareness;

12. making provisions for disaster risk management training, education and research;

13. making recommendations regarding funding for disaster risk management in the province; and

14. initiating and facilitating mechanisms for making funding available and establishing mechanisms for effective reporting, monitoring, evaluation and improvement (South Africa, 2007:10).

In terms of the results of this research study, the WCPDMC has ensured that there is an existing local government municipal DRM section in the CoCT authority. It also considers matters of disaster management in its IDP planning.

Section 1.2.4.2 of the Western Cape Disaster Management Framework of 2007 provides for the direction and *operational capacity of the WCDMC*. The appointment of the Head of the Centre (HoC) must be done by the minister responsible for the administration of the Disaster Management Act of 2002. In the event that the HoC is not available to carry out his or her duties, the head of the department in which the WCDMC is located may choose another person to meet the duties of the position (South Africa, 2007:11).

Section 1.2.5 of the Western Cape Disaster Management Framework of 2007 provides for the *roles of the provincial organ*s of state. Their main role is to assess any national or provincial

legislation applicable to their function, then to advise the WCDMC on the state of such legislation in terms of Section 2 of the Disaster Management Act. Each provincial organ of state must choose an individual to represent the WCDMAF as well as act as its focal point for disaster risk management. This is expected to promote interdepartmental relationships and co-ordination for the purposes of integrated planning. This would meet the expectations of the DMA (57 of 2002) as it requires the provincial disaster management centre to promote a co-ordinated, integrated and uniform approach to disaster risk management. This should be supported with development and implementation of appropriate disaster risk reduction methodologies, emergency preparedness, and rapid and effective disaster response and recovery in the WCP (South Africa, 2007:12).

Section 1.2.6.1 of the Western Cape Disaster Management Framework of 2007 requires that the Provincial Disaster Management Steering Committee (PDMSC) be comprised of key personnel in the various provincial organs of state. The personnel should also possess specific technical expertise applicable to disaster risk management. Its responsibility is to ensure disaster risk reduction activities such as response and recovery are carried out. Section 1.3 provides for possible arrangements for stakeholder participation, technical advice and planning. The WCDMC must establish and maintain a disaster risk management advisory forum (WCDMAF) for the province, as provided for in Section 37 of the DMA. The WCDMAF must be comprised of the heads and designated focal points for disaster risk management of the relevant provincial organs of state and any relevant stakeholders and role players (South Africa, 2007). In addition to technical expertise, heads of the disaster management centres of the metro and the five district municipalities in the WCP the advisory are expected to meet at least four times a year. It also has to function operationally in three

subcommittees, focusing respectively on disaster mitigation, preparedness/response, and recovery (South Africa, 2007).

Section 1.3.3 provides for disaster risk management planning. The WCDMC is expected to ensure that an inclusive planning process is implemented to enable active participation of relevant role players (South Africa, 2007:15). This provision is critical in bringing about inclusivity of decision making at grass roots level.

2.5 City of Cape Town Municipal Disaster Risk Management Framework (CoCTMDMF)

Section 42 (1) of the Disaster Management Act 57 of 2002 (DMA) expects each metropolitan and district municipality to establish and implement a framework for disaster management in its area. Therefore, the CoCT municipal disaster risk management framework (MDMF) is in line with requirements of the act. It is also consistent with the provisions of the NDMF and the PDMF. The MDMF's role is to bring about an integrated and uniform approach to disaster management in its area. It guides disaster management's role within the city. Players include the municipality and statutory functionaries of the municipality, municipal entities operating in the CoCT, NGOs interested in DRM in the CoCT, and members of the private sector operating within the CoCT (City of Cape Town, 2006).

The CoCT municipal disaster management framework operates within the context of two important sections: the *four key performance areas* (KPAs) and the *three enablers*. The objective of *KPA 1* is to make sure that an integrated institutional capacity within the municipality is established. Hence, it would enable successful implementation of disaster risk management policy and legislation. This is achieved by ensuring that a Municipal Disaster

Risk Management Advisory Forum (MDMAF) is in place and fully functional. Also an operational Inter-Departmental Planning and Risk Reduction Management Committee (IDPRRMC) and a Disaster Co-coordinating Team (DCT) should be in place and functional. The objective of *KPA 2* is to look at issues relating to disaster risk assessment and risk reduction planning. This is done through ensuring that there is a uniform approach to assessing and monitoring disaster within the municipality (City of Cape Town, 2006).

Expected indicators include ensuring that the MDRMC applies the national standard methodology for conducting DRAs for assessing priority disaster risks; it must also consider statutory requirements to lessen disaster risk and the findings of the DRAs are integrated into the integrated development plans (IDP) of the CoCT municipal departments and entities. *KPA 3* ensures that all DRM stakeholders within the CoCT municipal area develop and implement integrated DRM plans and risk reduction programmes. *KPA 4* ensures effective and appropriate disaster response and recovery within the municipal area by implementing dissemination of early warnings; reducing any potential impact in respect of personal injury, health, loss of life, property, infrastructure and the environment; and ensuring that rehabilitation and reconstruction are carried out (City of Cape Town, 2006).

Enabler 1 makes sure that information management and communication systems are in place in the CoCT. This would consequently enable meeting objectives of the four key performance areas and the three enablers. *Enabler 2* focuses on promoting a culture of risk avoidance amongst stakeholders within the municipality. This is achieved by empowering role players through integrated education, training and public awareness programmes, while *enabler 3* looks at available funding arrangements for DRM. Legislation that guides funding in CoCT is

as follow: The Constitution of the Republic of South Africa, Act 108 of 1996; the Disaster Management Act (DMA) 57 of 2002; the Municipal Finance Management Act (MFMA) 53 of 2003; and the Municipal Systems Act (MSA) 32 of 2000 (City of Cape Town, 2006:62).

In this chapter, the implications of the Constitution of South Africa, the Disaster Management Act, the Western Cape Provincial Disaster Management Framework, and the City of Cape Town Disaster Management Framework were examined. These frameworks provide and guide the operations of making the residents of the CoCT safe from any dangers posed by disasters. In this case, it must be accepted that to implement disaster management in the CoCT is a complex issue; therefore, a need exists for strong support from all government spheres so that the expectations of the Act may be accomplished.

The results of the research reported in the chapter also showed that there is a solid legislative framework upon which the DRMC is based. Parameters and responsibilities of every sphere of government are also articulated. However, note should be taken of the complexities presented by having several legislative frameworks. Of further importance is the possibility of the danger of red tape and failure to implement at grassroots level.

CHAPTER THREE: THE CITY OF CAPE TOWN DISASTER RISK MANAGEMENT CENTRE (DRMC)

3.1 Introduction

Success of the DRMC depends on the presence of efficient planning and sufficient financial resources. Integrated development plans (IDPs) in the CoCT provide five-year plans, indicating local government's funding and overall budgets. In the previous chapter, I endeavoured to place the legislative framework in context, laying the foundation for further details on the mid- to short-term plans for the DRMC.

In this chapter, background information and detailed description of the case study area of the DRMC is provided. The methodology used consists of analysing documents received from the DRMC and the CoCT offices. Sources include the websites of the DRMC and the City of Cape Town. More data were obtained from the questionnaires distributed to the staff and volunteers. Details such as administrative structure, human resources capacity, staffing, equipment and other related issues, such as technology, are provided. In addition to this, operations of the DRMC in relation to the programmes and projects are also outlined. Lastly, the funding mechanism provided for effective DRMC within the CoCT local government is discussed and the integrated development plans (IDPs) and budgets from 2005 to 2012 are provided.

3.2 The City of Cape Town Disaster Risk Management Centre (DRMC)

As pointed out in Chapter 2 of this study, both the National Disaster Management Framework (NDMF) of 2004 and the Disaster Management Act 57 of 2002 state that each municipality

must establish a disaster management centre, which becomes the main functional unit for disaster risk management in the metropolitan or district municipalities (South Africa, 2004). The CoCT is one of the few municipalities in the country to have established and maintained a fully functional centre since 2003. As expected, the DRMC harmonises and guides all activities relating to DRM within the CoCT metropolitan area, and most importantly, it offers backing to the WCPDMC and the NDMC. The ultimate goal is to achieve set objectives provincially and nationally (South Africa, 2004). The Disaster Risk Management Centre within the city's organisational structure is under the division of the city's Emergency Services Department, while the Emergency Services Department falls under the city's Safety and Security Directorate (City of Cape Town, 2012).

3.2.1 Organisational structure of the DRMC

The Disaster Risk Management Centre is organised and structured into 13 portfolios. These portfolios include head office; disaster operations centre (DOC); corporate planning and integrated development planning (IDP); systems integration and special projects; special planning, critical infrastructure and liaison; corporate, commerce and industry; training and capacity building; community and volunteer management; public awareness and preparedness; logistics planning and management; operational area west; operational area east; operational area north; and operational area central (City of Cape Town, 2012). Figure 3, below, provides the organisational structure of the DRMC:
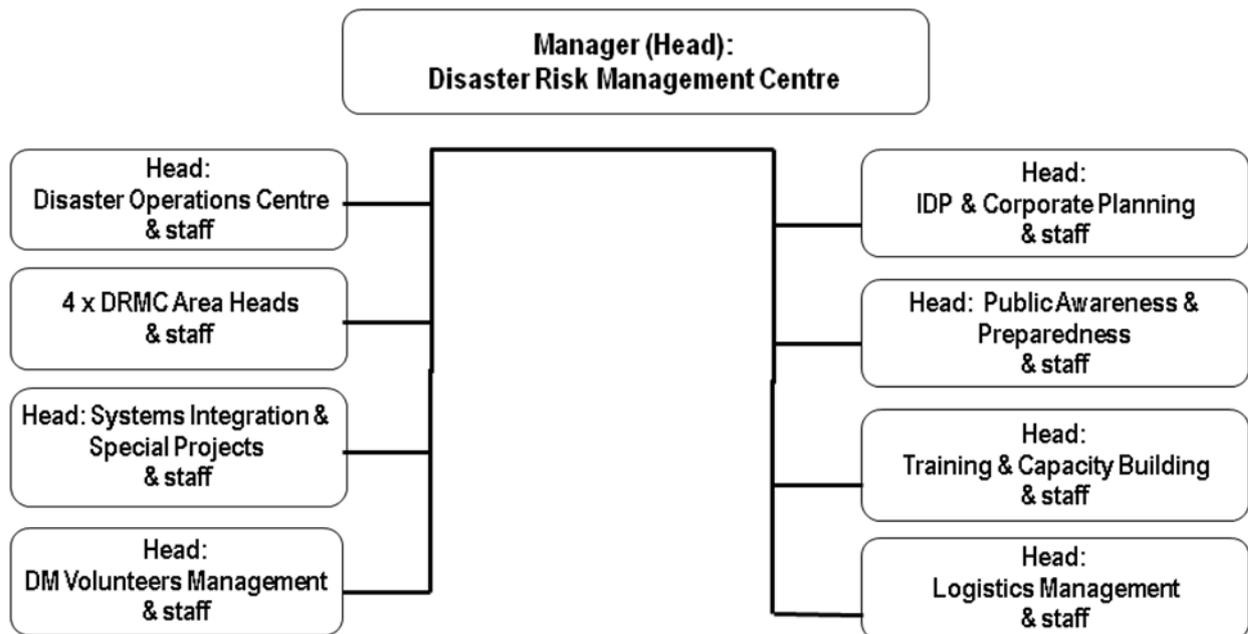
Figure 3: Structure of DRMC;

Source: City of Cape Town, 2012 (www.capetown.gov.za/disaster).

3.2.2 Human resources

During the official opening of the DRMC in October 2011, it was indicated that the Centre has a staff component of 83 personnel. This includes a total of 10 management team members who are answerable to one head/manager, as shown in the figure above (Pillay, 2011). The personnel work with a volunteer corps comprising 360 members, spread over an established 11 volunteer corps units. Out of these, only 224 were reported to be active members, as described in CoCT standard operating procedure (SOP) and the operating guidelines of 2009. Since volunteers are treated as full-time employees of the centre, they are trained in key areas so as to capacitate them. Areas of training received include, first aid and basic fire fighting as well as training as traffic wardens. This enables them to undertake point duty in times of emergency. Their services are of major importance, just like any other personnel in the

DRMC, especially because they are based on the ground. A volunteer unit is a legal mandate, as provided in the Disaster Management Act 57 of 2002. Section 44(1) requires every municipal disaster management centre to recruit and promote the growth of volunteers (South Africa, 2002).

As mentioned in Chapter 1, the DRMC operates across four service areas, and these area offices are comprised of up to between 8 and 10 staff members, all reporting to one area head, also referred to as the area manager. Personnel from logistics, special project and planning systems integration, and administration also report to their respective managers. In addition, there are functional and clear reporting structures in place that enable effective and efficient reporting and communication.

Participants in the study indicated that they are not satisfied with the human resources management structure. One respondent said that, *"the structure is too flat as all managers have to report to one head that has full control"*. However, in my view, flat management also has an advantage for a quick response. This can help in avoiding bureaucracy and extra paperwork, which are common in most government institutions.

Volunteers in the DRMC were reported to play a major role in the implementation of the DRMC's activities. Wong (2006) stated that volunteers provide important services to the communities they serve. Such services depend on the needs of those affected, from individuals to communities. It is therefore important to have volunteers who come from their immediate communities, where they are known by the community members (Wong, 2006). On the other hand, the results of this study showed that volunteers face certain challenges in the line of duty. Such challenges are directly linked to the fact that they frequently do not

work in their own communities. Respondents indicated that they were either English or Afrikaans speaking, and this made their work difficult in informal settlements, whose residents are predominantly isiXhosa speaking.

3.2.3 Technology and equipment

Technology and equipment are key components for the implementation of the centre's activities. I took part in a public awareness campaign at the DRMC in 2011, where various types of machinery and other equipment were displayed and their use during disaster incidents demonstrated. Some of the technology and equipment found at the DRMC includes vehicles and machinery, which add up to 60 vehicles and 35 specialist trailers. In addition, there are generators, energy lighting plants, bilge pumps, water trailers, mobile kitchens, and public address systems. The centre is equipped with state-of-the art communication systems, surveillance cameras and monitors. Major intersections and accident-prone areas are constantly under surveillance, enhancing speedy response to disasters.

3.2.4 Information management

Information management in any organisation needs to be managed very effectively. This enables smooth running of an organisation. If information is not well handled, then it may lead to a crisis. According to Kirk (1999:1), ''the counterpoint between the organisation and its individual members has particular relevance to information management because of its responsibilities to both the organisation at one level and to individuals at another level''. According to the respondents, information is managed in the following ways: situational reporting systems (e.g. incidents, local conditions); field data (e.g. features of buildings and infrastructure); early warning in collaboration with the SA weather services; data contacts

and other relevant details of all role players; and data collecting and capturing. The centre provides a 24-hour communication facility, the Disaster Operational Centre (DOC), for reporting purposes, as well for managing the dissemination of early warning. From the responses given during this research, I gathered that, despite the existence of clear procedures on how information is managed, there is a "*need for a data base that will store all emergency plans of buildings in the city*", as indicated by a majority of the respondents.

3.2.5 Programmes and projects

The majority of the respondents indicated that public awareness programmes on floods and fire are offered. Public awareness is of importance as it enlightens communities on the dangers of floods and fire. Attention is given to informal settlements as it is they who are mostly affected within the CoCT. This is done by developing and implementing specific plans. At the time this research was carried out, participants reported that 23 plans were in place. Such plans cover 70 hazardous areas that have been identified in comprehensive disaster risk assessment. These detailed plans cover both pro-active and re-active DRM aspects for each hazard. These include prevention and reduction of risks as well as alleviation by relevant entities. Other programmes and projects reported include distribution of family disaster emergency preparedness plans to households. This enables each family to provide, on the plan supplied, all the necessary information they may need in case of an emergency (DRMC, n.d.).

3.2.6 DRMC Operational Planning

Participants were asked about the operational plans in place to guide the day-to-day activities. Their responses included mention of a Koeberg nuclear energy plan, which has sirens in

place in the 16km zone surrounding the Koeberg Nuclear Power Station to alert surrounding communities to danger; climate change and energy monitoring, and manual and electronic measuring devices that are in place in such areas as Lourens and Diep River to constantly monitor water levels. This facilitates early warning to those communities close to the rivers. Responses also noted a coastal oil spill plan; a major aircraft disaster plan; structural fire plans; a rail disaster plan; a housing and social relief plan; major storms and flooding plans; and commerce and industry protection plans. These plans are normally developed by the Disaster Advisory Forum, the Joint Disaster Risk Reduction Management Team, and other hazard-specific task teams that drive reduction interventions. Disaster risk management personnel also advocate for risk reduction programmes and projects.

In relation to early warning, there are certain plans in place towards ensuring that communities are informed of any dangers that they may face at any time. These plans are in line with the work of ISDR and UN, 2006 (as cited by Grasso & Sighn, 2012, in UNEP, 2012). *Early warning* is defined as any effort made towards communicating information to the communities on time and effectively. If information is communicated at the right time, communities are enabled to take the necessary actions. This is especially of importance to those exposed to hazards as they will be in a position to avoid or reduce their risk and prepare for effective response (Grasso and Singh**,** 2012, in UNEP, 2012).

The majority of the respondents indicated that in efforts to ensure post-disaster recovery and rehabilitation, different city line function departments are expected to have specific plans in place to cater for such issues. Such plans must be in line with the DRMC. This is because disaster management is the responsibility of every individual and all government line departments. The plans in place include housing plans and a relocation plan. This is provided

in the CoCT municipal disaster risk management framework of 2005, in which key performance area four (KPA 4) tackles issues of response and recovery. Response and recovery can be achieved by ensuring that reliable disaster response and recovery systems are in place within the municipality. For example, authorities should maintain a uniform way of communicating with communities at risk so as to reduce injuries and property in the event of a disaster occurring (City of Cape Town, 2005).

According to the DRMC respondents, other more specific post-disaster operational procedures are in place and are followed in relation to post-disaster recovery and rehabilitation:

- Following a disaster-related incident, the areas affected are surveyed, and then improved design methods are implemented to prevent or mitigate future hazards/risks/disasters. This ensures sustainable livelihoods and cost-effective reconstruction and rehabilitation.

- For shack fires, rehabilitation may be required, such as relocation for informal settlements. This has been a particular challenge because suitable land for relocation is limited, according to the respondents.

- For structural damage, the DRMC provides guidelines for reconstruction. However, respondents indicated that a challenge remains, in that it is not economical to provide affordable fire-resistant materials.

3.2.7 Integrated development plans (IDP) and budgets

Integrated development plans are deeply embedded in the Constitution of the Republic of South Africa. For example, Section 152 of the constitution indicates that a local government

must provide democratic and accountable governance to all residents; provide services in a sustainable manner; ensure and promote sustainable development; promote a safe environment; and promote community and community organisations' participation in local government. Additionally, Section 153 of the constitution requires a municipality to structure and manage its administration, budgeting and planning process and to participate in both national and provincial development programmes (South Africa, 1996:84-85).

Generally, planning is central to successful implementation of activities in any local government. The City of Cape Town IDP (2007/08-2011/12:3) defines IDP as "a plan for how the city will spend its money for the next five years, on what, and where. A plan to help us set our budget priorities". Planning provides a springboard upon which goals and objectives are efficiently and effectively achieved. Hence, IDP is a five-year plan that looks mainly at infrastructural development across the municipality and not just for specific areas (CoCT IDP, 2007/08-2011/12:3). Integrated development planning can also be described as a plan that places clear focus on who the municipality is, gives direction to where the municipality will be in the next five years, and indicates what the core business and purposes of the municipality are (Disaster Management Solutions, n.d.).

According to Disaster Management Solutions (n.d.), local governments are expected to use IDP as a tool for future planning in their areas, which therefore becomes a function of local government and an integrated system of planning and service delivery. The process towards developing IDP is a consultative one between local government and communities generally across South Africa. It is on this basis that the CoCT local government ensures community

involvement. Community participation is required during this process as communities know their needs better than their leaders do.

Moreover, integrated development plans have been indicated by research as not just plans, but as plans that also offer benefits (Meyer, 2000). Benefits include guiding the municipality in proper utilisation of available resources; encouraging effectiveness and efficient service delivery; providing sources for more funding from investors if the municipality has a good history of planning; and acting as a catalyst for democracy as participation is the key component and links communities and government spheres (Meyer, 2000).

The implication of IDPs, in the context of this research, is that the CoCT, and consequently the DRMC plans, are expected to motivate and encourage all aspects of development in the municipality. Within each plan, issues of disaster risk management matters have received attention since the establishment of the DRMC in 2003. IDP, as a plan, guides budget allocation on each programme or project to be implemented. The importance of budget allocations was emphasised during the official opening of the DRMC in October 2011 (Smith, 2011). It was noted that the implementation and existence of the DRMC would not have been possible without funding, as funding allows implementation of programmes and projects and generally guarantees the smooth running of the activities. During the official opening of the DRMC, it was furthermore reported that the centre had received a total allocation of a capital investment of R62.1 million, with an operating budget total of R362 million between the years 2007 and 2011. These funds came from the local government (Smith, 2011).

Neither the provincial nor the national government has played a major part in the CoCT in relation to funding disaster risk matters, according to data gathered in this qualitative research. This also relates to reports by Visser and van Niekerk (2009), which point to lack of support from both the provincial and the national governments during establishing and implementing of the DRMC in the CoCT.

For the purposes of this research, budget allocations, as provided by IDP budgets, are discussed from financial year 2005 to 2012. Plans for 2005/6 and 2006/7 were done separately, though there was a single budget for the period 2005-2008. As pointed out earlier, DRM funding does not entirely fall under DRMC but under several directorates within the CoCT, which get funding allocations for disaster risk management issues. In these periods, funding was given in the form of various projects and other services that directly link to DRM. For example, Section 8.9 of the IDP 2005/6 specifically looks at the emergency directorate of disaster management, fire services, and the public emergency communication centre. For IDP plan 2006/7, disaster risk issues were provided under Theme 5 (CoCT IDP, 2005/6: 78-79; IDP, 2006/7). Table 1 below provides a summative budget allocation, as it was provided in the draft capital budget for the years 2005/2006-2007/2008.

Table 1: Summative Budget Allocation for Financial Year 2005/2006-2007/2008.

Service	Directorate	Project Total Cost in SAR (2005-2008)
Transport, Roads & Planning	Transport	700,000
Services and Infrastructure	Water Services	10,460,000
Transport, Roads & Planning	Roads and Storm water	2,390,000
Corporate Support Service	Specialised Radio and Telecomm Services	47,000,000
	Administration and Legal	702,610
Chief Operations Officers	Emergency Services	107,907,686 Million Rand's
Total projects' cost in R	(Estimates)	169160296 Million Rand's

Source: City of Cape Town, 2005/2006-2007/2008 Draft Capital Budget

Budget allocations are not guaranteed for every year in the CoCT IDP budgets. For example, for IDP budget allocation in 2005-2008, under the Directorate of Transport, flood disaster was allocated R700,000 in the financial year 2005/6. There were no allocations in the following financial years, 2006/7 and 2007/8 (CoCT IDP Budget, 2005-2008). Under the Directorate of Water Service, which includes flood disaster, Wallacedene was allocated R1, 960,000 in 2005/6, while in 2006/07; it received R1, 800,000, but nothing for the year 2007/8. Additionally, under the Directorate of Roads, which also covers storm water and

floods, Wallacedene was allocated R1,850,000 (2005/6) and R540,000 in (2006/07), while no allocation was made for the financial year 2007/8 (City of Cape Town 2005/2006-2007/2008 Draft Capital Budget).

In efforts to improve emergency preparedness, under the Directorate of Emergency Services, a replacement of computer equipment training and safety project received allocations throughout the financial years. The project received R50, 000 in 2005/6, R75, 000 in 2006/07, and R82, 5000 in 2007/8. In the same plan, under the Directorate of Transport, Road and Planning services, some funds were allocated towards improving surveillance of CCTV in Khayelitsha and Mitchell's plain. Allocations were R2, 975,000 in 2005/06, R2, 000,000 in 2006/07, and R2, 000,000 in 2007/08. In the same directorate, public transport enforcement (CCTV) received R2, 000,000 in 2005/06, R1, 000,000 in 2006/07, and R1, 000,000 in 2007/8. In this budget, most allocations in relation to disaster management were allocated under chief operation officer services, which is under the Directorate of Emergency Services. The projects were devised in efforts to maintain and improve safety in the city.

In the IDP plan for the year 2007/8-2011/12, the CoCT also paid attention to matters of disaster management. This was reported to be because of CoCT efforts to ensure that both economic and social development would not be hindered by threats of disaster. Floods and fires were indicated as still being a challenge, calling for a more "efficient emergency response" (CoCT IDP, 2009-2012:74). Consequently, under strategic focus area 6, focus was given to matters of safety and security.It was on this basis that disaster-related projects were allocated funding, as shown in Table 2 below.

Table 2: IDP Projects and Budget Allocation 2009 to 2012 (IDP Draft Budget 2009-2012)

Project	2009/10	2010/11	2011/12
Safety and Security	R49,494	R40,133	R40,738
	R7,252	R6,000	R6,000
	R63,696	R23,629	R16,558
	R10,347	R5,340	R8,306
Good Governance and Regulatory Reform	R53,396	R38,381	R35,307
Total in R (Thousands) **(Estimates)**		**404577**	

The results of the study revealed some contradictory information on the sources of funding. For example, the majority of the respondents indicated that funding for DRMC activities is provided by the CoCT municipality. Others argued that funds came from CoCT local government, plus other sources, though only occasionally, such as the provincial government and national government. One respondent noted that *"there is need for further funding so as to not face constraints in offering services to a city of 3.8 million people"*. The area of

funding mechanisms is very critical in the provision of any services. Therefore, there is need for clearly outlined ways on how funds are raised and where funds come from. It is important for the employees, especially at management level, to be fully aware of funding sources in order to efficiently manage the resources.

CHAPTER FOUR: RESEARCH FINDINGS

4.1 Introduction

This chapter provides findings gathered from top management, volunteer co-ordinators, and the high school learner's Public Awareness Programme of 2012. Note that some of the findings were mentioned in Chapter 3, in which an analysis of the case study area was presented.

4.2 Findings from Management and Volunteer Co-ordinators

The respondents were asked to comment on the capacity of personnel, and different views were gathered. For example, one of the respondents indicated that, *"we are regarded as the biggest DRM team in local government"*. Another respondent indicated that although the DRMC is made up of a *"strong work force, there is need for specialist in the field of all hazards"*. Another respondent agreed on this by indicating that the personnel needs to have *"expert knowledge on DRM and if possible, a degree course"*. The majority of the respondents indicated that there is need for more personnel, especially in the staff training unit. This would help in dealing with the high training demands. The implication is that the DRMC is not adequately staffed and also lacks proper skills.

Despite the centre having reliable equipment and technology, some respondents indicated that an upgrade of technology and equipment is needed. This was especially directed at The Joint Operation Centre (JOC) commander vehicles and surveillance monitors, as they relied on minimal monitors that are expected to cover all activities taking place across the city, even road incidents across the city. Such reports are not unique to the CoCT as earlier research

showed that 67.7% of municipalities lack reliable technology and equipment to carry their functions (Botha., Van Niekerk., Wentink., Coetzee., Forbes., Maartens., Annandale., Shona, and Raju, 2011:43). Because appropriate technology and equipment play a key role in implementing disaster risk functions in any municipality, they must, therefore, be up to date.

During this research, it was reported that the centre had not put up enough temporary shelters or what is also referred to as *relocation centres*. It had rather relied on, among others, community halls, churches, schools, and two temporary relocation centres (Delft Information Structures Centre and Blikkiesdorp in the Strand). The most affected communities in the neighbourhood are relocated to these centres until their areas are safe for them to return. Although each centre has specific strategies to respond to disasters, there is still dire need to move vulnerable communities permanently to safer areas. This may need a lot of planning and consideration of community views to avoid conflicts. I need to stress that the CoCT authorities should consider, as a matter of urgency, working towards implementing plans for permanent relocation centres as one of their long-term plans. According to Aysan and Davis (1993), relocation is complex; hence, many issues have to be considered, for example, benefits, resources and access to certain infrastructural factors, such as transport, among others.

Major challenges indicated by volunteer co-ordinators during qualitative research included poor infrastructure; lack of personnel on the ground; and the language barrier as the majority of volunteers speak English and Afrikaans, and in the most vulnerable areas that demand attention, the majority of the community members are isiXhosa speaking. This has also caused hostility from community members to volunteers. This raises questions on how

volunteers are recruited and where they are placed to carry out their duties. The conclusion can be made that the DRMC does not place volunteers in the communities they come from. If this was done, the volunteers would not be faced with such challenges. Community members know their areas better than any outsider; they also understand the challenges their communities face better. This is an area that needs further research.

4.3 Findings on the Impact of the Public Awareness Campaign Programme in 2012

Promoting public awareness aims at simply ensuring that communities are aware of hazards around them. This enables them to stay resilient, by enlightening them on how they can possibly play a role in saving their own communities from disaster-related occurrences (Hays, 2012). Public awareness efforts, if effectively implemented, may assume different forms, such as national public awareness initiatives; special events and major activities; the role of the media; and the experiences of local communities (United Nations, 2004:282). According to NDMF of South Africa and City of Cape Town DRMF, enabler 2 provides for an extensive public awareness. In NDMF, enabler 2 indicates that there must be "a culture of risk avoidance among stakeholders by capacitating all role players through integrated education, training and public awareness supported by scientific research" (South Africa, 2005:83). This gives an indication that the policy frameworks take into consideration thecritical role played by implementing effective public awareness campaigns in creating community resilience.

To achieve this aim, the Disaster Risk Management Centre of the CoCT has a unit with a portfolio head in charge of public awareness and preparedness. This unit oversees implementation of the activities provided by enabler 2; that is, on education, research, and

public awareness training programmes. During the qualitative data collection, it was reported that the unit's main focus is on fire, floods; health risks (HIV/TB/STD's), nuclear/radiation related incidents, transportation accidents, family emergency, and climate change.

Asked on how they reach the community, respondents to informal interviews conducted by the researcher showed that information is passed via pamphlets and face-to-face talks and, once a year, through a community seminar and campaign presented at the community level. Industrial theatre (skits) is also used to convey the message to the communities, for example, in a partnership with the Jungle Theatre Company, which had previously produced a play by the name of *Spirit of Water and Spirit of Fire*. The play engages communities in informal settlements. At an international level, the DRMC annually recognises the World Disaster Reduction Day. Public awareness programmes are also offered by line function city departments.

For this study, a public awareness programme evaluation was done to assess its impact on the learners who were involved. According to Metz (2007:4), a programme evaluation can play numerous roles, such as showing "what works" and "what does not work''; showcasing the impact of a program to stakeholders involved, and improving the staff's priorities, as provided by beneficiaries.

4.3.1 High schools public awareness programme

In 2012, a public awareness programme was implemented by both the DRMC and the Environmental Management Department of the City of Cape Town. This targeted 12 high schools, with12 learners from each school. The theme was *Making cities resilient''* (CoCT, 2012). This theme generally demonstrated that people of CoCT need to be prepared and not

to rely only on the authorities and government for help, raising the question, "How can Cape Town residents take responsibility for being prepared?" This question is aimed at the coping capacity of individuals across the city generally, not only at solving disaster problems when they occur (CoCT, 2012:3). Previously, that is since 2008, the CoCT focus has been on environment and not specifically on disaster resilience and was usually implemented by the Environmental Management Department as an annual Youth Environmental School Project (YESP).

In terms of the scope of this research, project evaluation was of importance as the CoCT partnered with the DRMC to run the project in 2012, thus moving the focus to the city's resilience to disasters. Six workshops were held from January to June on Saturdays in order to assist learners and teachers to understand the theme. Workshops were also held on the artistic execution of the drama, conducted by experts on voice and physical theatre. Certain themes were made available, and schools were requested to choose a theme and write a script and, eventually, to perform a play. The end result was a professional drama presentation on the specific themes.

The aim of the public awareness programme was to prepare these learners to go and act as change agents in their communities. They are expected to educate families, friends, schoolmates and communities generally. Phase 1 was implemented in March, while phase 2 continued from April to the end of July, 2012. To evaluate this, the learners were asked open-ended questions in a workshop, such as whether they had ever shared the gained information from phase 1 to end of phase 2.

4.3.2 An analysis of the high school public awareness programme

Of the 105 questionnaires distributed to high school learners, a total of 92 were completed, representing over 80% of the total number of participants. A total of 29 out of the 92 respondents indicated that they were aware of the existence of the DRMC before they embarked on the workshop, which was focused on understanding of the theme. This question was devised to ascertain prior knowledge, before these learners were selected for the workshop. According to the figure below, the majority of those who said *yes* came from schools within informal settlements. This gives an indication that learners' knowledge was largely limited to past experiences with disaster occurrences.

Table 3: Learners with Prior Knowledge of DRMC of City of Cape Town

Name of school	Yes	No	Other
Storyboard High School	0	6	0
Zisukhanyo High School	6	5	0
Islamia High School	2	8	0
Edgemead High School	0	8	0
Queens Park High School	5	5	0
Settlers High School	3	5	0
Rocklands High School	2	8	0
De Klien High School	0	1	0
Chris Hani High School	7	7	0
Aloe High School	9	9	1
Beautiful Gate High School	3	3	1

Of those who responded *yes* to having known about the DRMC before the workshops, 22 indicated that they had learnt about it at school, 8 from the community, 13 from the media, and l from parents.

The respondents were also asked if they had experienced any form of disaster. Table 4. below indicates the results:

Table 4: Learners who had experienced any form of disasters

Name of school	Yes	No
Storyboard High School	0	6
Zisukhanyo High School	5	6
Islamia College	0	10
Edgemeal High School	3	5
Queens Park High School	1	9
Settlers High School	0	8
Rocklands High School	3	7
De Klien High School	0	1
Chris Hani High School	8	3
Aloe High School	3	9
Beautiful Gate High School	2	0

Asked if they had ever experienced any form of disaster, 25 of the 84 respondents indicated that they had actually experienced a disaster, as shown in the graph below. All 25 respondents came from schools that are located in informal settlements or poorer areas of

Cape Town. This implies that informal settlements are more prone to disasters when compared to other parts of the city.
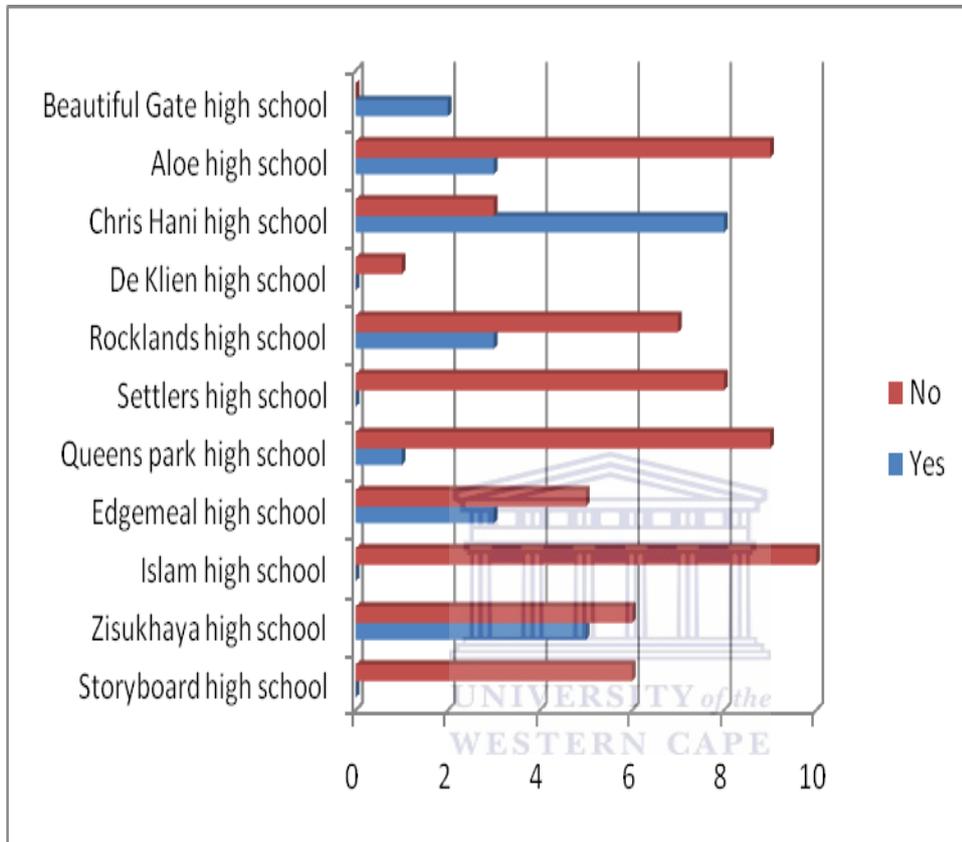
Figure 4: Disasters in informal settlements

When the respondents were asked how they dealt with disaster; the majority (60%) indicated that they had sought help from the City of Cape Town. This was either through calling emergency numbers like 107, fire brigade, police, or the DRMC directly. The other 40% indicated that they had sought help from community members, for example, to douse a fire or remove water from houses. Some just put the fire out or removed water all by themselves. One respondent said that "*I ran away as did not know what to do*". From this analysis, I can

conclude that these groups of respondents and their families actually did something to resolve the problems. The fact they called for help from the CoCT means they were aware of the roles played by the local municipality in resolving disaster issues.

Participants were also requested to comment on some of the ways they would make use of the information received. This question was aimed at finding out whether the learners would actually play such critical role. More than 99% responded positively to this question on playing key roles in their communities, schools, homes, and among peers. They indicated that they would make use of gained information themselves and also create awareness at home, school, churches, and in their communities. Other ways include teaching others to keep the emergency family plan at their homes updated; teaching them on coping ways; and telling them of ways to take care of the environment. The term *resilient* was used by 99% of the respondents. They indicated that they would create public awareness through the mentioned ways of ensuring resilience in individuals and communities.

According to the respondents, 99% felt that the programme was beneficial as it was new information gained. Some of the comments were; *"fun but also educative''*, *"the workshop was excellent'', "workshops were effective'' "wouldn't ask for anything to be improved''*.

The respondents were also asked about what they thought could be improved in the programme, and some said there was need for the number of workshops to be increased to more than six and to be more regular. Some suggested there was need for more information on how to respond to fires, advertising on a programme across the CoCT, so as to target more people generally. They also requested for the workshops to be conducted in the communities mostly affected by disasters. Other learners felt that the workshops kept them busy and away

from unhealthy weekend activities. The majority also requested individual certification and to be allowed to make use of the stage more during practice.

4.4 Concluding remarks

In this chapter, the qualitative results gathered from top management, volunteer co-ordinators and public awareness programmes were presented. Discussions on closed-ended questionnaires and observation demonstrated the success of the 2012 public awareness programme but it is still open for improvement. The results showed an in-depth analysis of the project as a whole, which provided light on implementation of such a project in the future.

UNIVERSITY *of the*

WESTERN CAPE

CHAPTER 5: RECOMMENDATIONS AND CONCLUSION

5.1 Introduction

Disaster risk management is crucial in development of any community. This is basically because poor communities cannot enjoy the fruits of development when they are always at risk of experiencing disaster. When disasters occur, it is the poor who are mostly affected, compared to the rich, because they are usually most vulnerable. Furthermore, it has been observed that in many regions across the globe, risk is growing for poor communities due to population increase, climate change effects, increasing urbanisation, and environmental degradation. This is happening even faster than the world's ability to build resilience (UNISDR, 2011). The CoCT faces more or less the same challenges. This therefore gives a clear picture of why communities need to be empowered so as to be resilient. As pointed out earlier, the concept of DRM refers to ''integrated multi-sectoral and multidisciplinary administrative, organisational and operational planning processes and capacities aimed at lessening the impacts of natural hazards and related environmental, technological and biological disasters''(South Africa, 2005:2). This study was aimed at analysing the capacity of the DRMC to respond to disasters.

Disaster risk management in the CoCT is very critical as the area is well known for its winter floods and summer fires. Though, so far, no major disasters have ever been recorded, the city faces numerous localised disasters that have proved overwhelming to the residents, especially those in the informal settlements. Therefore, the role played by DRMC in the CoCT cannot be disputed.

5.2 Disaster Preparedness of the DRMC

Generally, the study results indicated that the DRMC plays a crucial role in managing disasters in the Western Cape. The centre partially fulfils its mandate to adequately create relatively safe communities. The City of Cape Town has made a major effort towards creating a resilient community. This is evident from the fact that the DRMC has been tasked with handling such issues. This includes educating and empowering all Capetonians to improve their personal preparedness.

The findings of the study pointed to the success of the awareness programme, with high schools under the banner of the YES Project. The majority of the participants demonstrated considerable understanding of DRMC activities after the project. This demonstrates the effort the DRMC is making to inform the public about their activities. In addition, the fact the majority of the schools who participated are located in the informal settlements and townships, where the population is more vulnerable, indicates the wide scope of the programme.

Planning is another crucial aspect guiding the DRMC. The results of the study showed that both long-term plans as well short-term plans are in place to guide the operations of the DRMC. However, findings showed that too many legislative frameworks could be a draw-back for effective management. Some pieces of legislation are too complex and therefore lack simple and straightforward guidelines. Plans also tend to be too theoretical and cumbersome, hence presenting difficulties for ordinary informal settlement residents to elucidate.

5.3 Administrative Capacity of the DRMC

Largely, findings of this study have indicated that the DRMC is relatively well prepared to respond to localised disasters. This is demonstrated by the fact that reliable personnel are in place, the volunteer unit is prepared, and equipment, though limited, is available. The findings also indicated that there is need to have more qualified employees with special hazard skills and knowledge so as to be more effective rather than to rely on short training. This will create a strong administrative base for the DRMC.

In addition, the staff number is not enough to deal effectively and efficiently with all disasters in the Western Cape. The volunteers are also not constantly trained so as to update them to current approaches to disasters. Equipment for running operations is not adequate to cover the whole province and the rapidly growing population.

The City of Cape Town still faces high levels of localised incidents of disaster, especially in the informal settlements, where there is poor housing and limited infrastructure, such as drainage and roads. This is partly due to high migration of locals from other provinces as well as immigrants from other Africans countries. These increasing numbers of people have resulted in the mushrooming of informal settlements which have very little or no basic services. Overcrowding in big informal settlements makes the work of DRM staff and volunteers very difficult, as there are no proper roads and drainage systems.

The City of Cape Town, like other municipalities in South Africa, faces a huge challenge in informal settlements. Unfortunately, more disasters take place in these areas. The study results, however, showed that very few volunteers come from these areas. Reports by study

participants stated clearly that the majority of the volunteers are either English or Afrikaans speaking, which hinders communication in isiXhosa-speaking areas.

Funding is not consistent, and the IDPs do not clearly elucidate what amounts will be allocated to DRM. Sources of funding are varied and amounts are also not the same. There are no clear institutional arrangements to deal with funding. Furthermore, the role of other stakeholders, like the private sector, is not clearly defined.

5.3 Recommendations

The following are some of the suggested recommendations stemming from the research findings:-
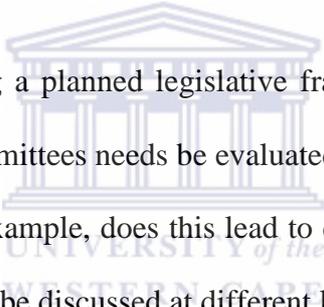
- The implication of having a planned legislative framework which entails numerous committees and sub-committees needs be evaluated on how this may affect decision-making processes. For example, does this lead to delays in administration of certain decisions as they have to be discussed at different levels?

- Funding is the root for sustainability in any project. There is need for more reliable funding from government and the private sector. This challenge was demonstrated in the description of IDP and the budgets, as it is not always guaranteed that the DRMC receives budget allocation on every financial year, which may hence pose challenges for administration of DRMC.

- More ground staff and volunteers need to be recruited for early warning as well as disaster-related guidance. Furthermore, volunteers need come from their own communities or learn to communicate in languages other than their own language.

- Capacity building for employees and volunteers was also provided as an area of concern. Qualitative research findings showed that a need exists for more training so as to empower the team. The training unit itself indicated that it is short of training personnel, yet it is a key unit within the DRMC.

- There is need for more effective ways of implementing public awareness at community levels. Research showed that the city relies mainly on electronic media to reach communities. Even though efforts are made to reach community members, their effectiveness can be questioned. For example, are communities taking information on the brochures seriously? Are they making use of the Family Emergency Plan (FEP)? How effective is the annual public awareness programme which is implemented at community level? The information on the distributed documents is written in English, which poses a challenge to non-English speaking communities.

- Public-private partnerships also need to be nurtured for success of the DRMC.

5.4 Areas for Further Research

Further research is needed on how to create a more sustainable disaster risk management programme within the CoCT. For example, what can be done to curb high migration rates into the informal settlements? How can the city ensure there is reliable infrastructure and design more effective ways of creating resilience in the communities? How can a culture of volunteerism be cultivated across South Africa specific in Cape Town? Another interesting

area is on how to tap into the private sector for funding and possible investment opportunities.

5.5 Conclusion

Disaster risk management entails the sum total of all activities, programmes and measures which can be taken up before, during and after a disaster so as to avoid any form of destruction. The DRMC rests on a very strong legislative framework which guides its operations. Other municipalities should emulate the CoCT in combatting the negative impact of disasters in South Africa and the whole of Africa. All stakeholders need to be involved in decision- making processes as well in showing commitment to finding funding, especially the state.

UNIVERSITY *of the*
WESTERN CAPE

REFERENCES

Aysan, Y. & Davis, I. (1993). *Rehabilitation and Reconstruction; Disaster Management Training Programme* (1st ed.). UNDP/DHA. [Online]. Available: http://iaemeuropa.terapad.com/resources/8959/assets/documents/UN%20DMTP%20-%20Rehabilitation%20&%20.

Babbie, E. & Mouton, J. (2001). *The practice of social research*. Oxford, UK: Oxford University Press.

Berren, M., Santiago, J., Beigel, A. & Timmons, S. (1989). A classification scheme for disasters. In R. Gist & B. Lubin (Eds). *Psychological aspects of disaster*, pp. 40-58. New York, NY: John Wiley & Sons.

Bosman, R. (2010). *Departmental Business Plan 2010/2011; Department: City Emergency Services.* [Online].Available: http://www.capetown.gov.za/en/IDP/SDBIP%20Safety%20and%20Security/Dept%20Business%20Plan-City%20Emergency%20Services.pdf

Botha, D., van Niekerk, D., Wentink, D., Coetzee, C., Forbes, K., Maartens, Y., Annandale, E., Shona, T. & Raju, E. (2011). *Disaster risk management status at municipalities in South* Africa. Potchefstroom, RSA: Africa Centre for Disaster Studies: North West University.

Casley, D. J. & Kumar, K. (1988*). The collection, analysis and use of monitoring and evaluation of data*. Baltimore, MD: Johns Hopkins University Press for the World Bank.fLICK

City of Cape Town. (2006). *City of Cape Town municipal disaster management framework.* [Online]. Available: http://www.slideshare.net/Micheal22/city-of-cape-town-municipal-disaster-management-framework.

City of Cape Town. (2009). *Standard operating procedure (SOP) and operating guidelines*, Version 2.1, 2009. Available: http://www.capetown.gov.za

City of Cape Town. (2009-2012). *Integrated development plan: Draft budget*. [Online]. Available: http://www.capetown.gov.za/en/Budget/Pages/default.aspx

City of Cape Town. (2005/2006-2007/2008). *Draft capital budget*. [Online]. Available: http://www.capetown.gov.za/en/Budget/Pages/default.aspx.

City of Cape Town. (2009-2012). *Original budget, 2009-2010*. [Online].Available: http://www.capetown.gov.za/en/Budget/Pages/default.aspx.

City of Cape Town. (2006). *City of Cape Town municipal disaster risk management framework*. [Online]. Available: http://www.slideshare.net/Micheal22/city-of-cape-town-municipal-disaster-management-framework

City of Cape Town. (2005/6). *Integrated development plan.* [Online].Available: http://www.capetown.gov.za/en/Budget/Pages/default.aspx

City of Cape Town. (2006/7). *Budget 2006-2007*. Integrated Development Plan [Online]. Available: http://www.capetown.gov.za/en/Budget/Pages/default.aspx

City of Cape Town. (2012). *Integrated development plan.* Available: http://www.capetown.gov.za/en/DRM/Pages/Portfolios.aspx)

Disaster Management Solutions, Western Cape. (n.d.). *Course Manuel, Disaster Risk Management and the Integrated Development Planning Process*. N1 City, Cape Town: Disaster Management Solutions.

Davis, M. & Seitz, S. (1982). Disasters and governments. *Journal of Conflict Resolution, 26:* 547-568.

Dilley, M. (2006). Setting priorities: Global patterns of disaster risk. *Philosophical Transactions of the Royal Society*, *364*(1845): 2217-2229. [Online]. Available: http://rsta.royalsocietypublishing.org/content/364/1845/2217

Eyre, A., Fertel, N., Fisher, J. M. & Gunn, S. W. (2001). Disaster coordination and management: Summary and action plans. *Prehospital and Disaster Medicine*, *16*(1): 22-25.

Flick, U. (1998). *An introduction to qualitative research*. London, UK: Sage.

Global Risk Forum. (2010). *One year after the earthquake -- The balance of a catastrophe.* [Online]. Available: http://www.grforum.org/pages_new.php/Haiti%20Earthquake%20-%20One%20year%20after/916/1/769.

Grasso, V. F. & Singh, A. (2012). *United Nations Environment Programme (UNEP). Early Warning Systems: State-of-Art Analysis and Future Directions.* [Online]. Available: http://na.unep.net/geas/docs/Early_Warning_System_Report.pdf

Harris, H. (2001). Content analysis of secondary data: A study of courage in managerial decision making, *Journal of Business Ethics, 34*(3-4): 191-208.

Hays, W. (1012). *How to put a new face on global disaster resilience*. Global Alliance for Disaster Reduction, University of North Carolina, USA. [Online]. Available: www.pitt.edu/~super7/47011-48001/47111

Himayatullah, K. & Aboturab, K. (2008). *Natural hazards and disaster management in Pakistan*. [Online]. Available: http://mpra.ub.uni-muenchen.de/11052/1/MPRA_paper_11052.pdf

Honadle, B. W. (1981). A capacity-building framework: A search for concept and purpose. *Public Administration Review*, *41*(5): 575-580.

International Decade for Natural Disaster Reduction (IDNDR) (1989). Challenges of the IDNDR; Report and summary of proceedings of the International Symposium on 'Challenges of the IDNDRD. Yokohama, Japan, 13 April 1989. [Online].Available: http://www.hyogo.uncrd.or.jp/publication/pdf/Proceedings/1989IntlSymposium.pdf

Kesavan, P. C. & Swaminathan, M. S. (2006). Managing extreme natural disasters in coastal areas. *Philosophical Transactions of the Royal Society of London*, *Series A*, *364:* 2191-2216.

Kothari, C.R. (2004). *Research methodology: Methods and techniques* (2nd ed.). New Delhi, India: Vishwaprakashan.

Kirk, J. (1999). Information in organisations: Directions for information management. *Information Research*, *4*(3): paper 57. [Online]. Available: http://InformationR.net/ir/4-3/paper57.html

Levinger, B. & Bloom, E. (n.d). *A simple capacity assessment tool (SCAT)*. [Online]. Available: http://www.gdrc.org/ngo/bl-scat.htm

Metz, A. (2007). *Why conduct a program evaluation? Five reasons why evaluation can help an out-of-school-time program;* Part 1 in a series on practical evaluation methods. Publication #2007-31 [Online]. Available: http://www.childtrends.org/files/child_trends-2007_10_01_rb_whyprogeval.pdf

Meyer-Stamer, J. (2006). *The hexagon of local economic development and LED in South Africa*. [Online]. Available: http://www.mesopartner.com/fileadmin/user_files/working_papers/mp-wp5_Hexagon-SA.pdf

Pillay, G. (2011). *Making cities resilient; My city is ready*. [Online]. Available: https://www.capetown.gov.za/en/ExternalRelations2/Documents/International%20trip%20Reports%20and%20Feedback/UNISDR%20Making%20Cities%20Resilient-Incheon%20S%20Korea/UNISDR%20ROLE%20MODEL%20CITY%20feedback%20summary%20report.pdf

Quarantelli, E. L. (1998). *Disasters: Theory and research*. Thousand Oaks, CA: Sage.

South Africa (Republic). (1996). *Constitution of the Republic of South Africa*, (Act 108). Cape Town, RSA: Government Printers.

South Africa (Republic). (2002). *Disaster Management Act.* (Act No 57 of 2002). Government Gazette No. 24252, Pretoria, RSA: Government Printers

South Africa (Republic). (2007). *Western Cape Disaster Management Framework.* [Online].Available: http://www.westerncape.gov.za/Text/2008/5/provin07ex_gaz-disaster_3_oct_2007.pdf

South Africa (Republic). (2005). *Final draft National Disaster Management Framework.* Government Gazette No. 26390, Notice 974. Pretoria: Government Printers.

Sutton, J. & Tierney. (2006). *Disaster preparedness: Concepts, guidance, and research.* Natural Hazards Center Institute of Behavioral Science, University of Colorado, Boulder, CO. Report prepared for the Fritz Institute Assessing Disaster Preparedness Conference Sebastopol, California, November 3-4, 2006. [Online]. Available: http://www.fritzinstitute.org/pdfs/whitepaper/disasterpreparedness-concepts.pdf

Stern, R., Coe, R., Allan, E. & Dale, I. (Eds.). (2004). *Good statistical practice for national resources research*. Wallingford, UK: CABI.

Smith, A. J. P. (2011). *Official Opening of the Disaster Risk Management Centre; Communications Department, City of Cape Town*. [Online].Available: http://www.capetown.gov.za/en/MediaReleases/Pages/OFFICIALOPENINGOFTHEDISAST ERRISKMANAGEMENTCENTREONMONDAY10OCTOBER2011.aspx

United Nations. (2004). *Living with risk: A global review of disaster reduction initiatives*. Partnership with International Strategy for Disaster Reduction (ISDR). Vol *1*. Geneva, Hel: UN Press.

United Nations Office for Disaster Risk Reduction (UNISDR). (2011). *Global assessment report on disaster risk reduction*. Geneva, Hel: UN Press.

Visser, R. & Van Niekerk, D. (2009). *A funding model for the disaster risk management function of municipalities,* Research Report Version 1. [Online]. Available: http://acds.co.za/uploads/research_reports/drm_funding_ver1.pdf

Warfield, C. (2008). *The disaster management cycle*. [Online]. Available: http://www.gdrc.org/uem/disasters/1-dm_cycle.html

Wilhite, D. A. (1997). *Preparing for drought: A methodology*. London, UK: Routledge.

Yin, R. K. (1984). *Case study research: Design and methods*. Beverly Hills, CA: Sage.

Zainal, Z. (2007, June). Case study as a research method. *Jurnal Kemanusiaan, 9,* 1-6. [Online].Available: http://eprints.utm.my/8221/1/ZZainal2007-Case_study_as_a_Research.pdf

ANNEXURE 1: QUESTIONNAIRE FOR THE EMPLOYEES OF THE CITY OF CAPE TOWN DISASTER RISK MANAGEMENT CENTRE

Date of Interview..

Position in the organisation.........................

Section A: Ensuring institutional capacity of the DRMC for Disaster Management.

1.   How long have you been employed at DRMC?

_____

2.   Kindly mention some of your responsibilities/duties?

_____

_____
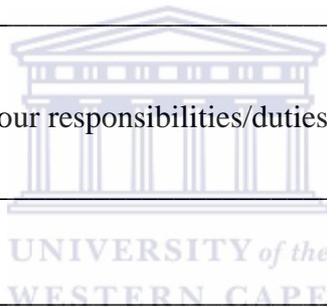
3.   What *early warning systems* are in place? (Especially floods and fires and others)

_____

_____

_____

4.   What plans are in place to ensure *prevention/reduction* of *risks*?

_____

_____

_____

5. What measures are in place to ensure *mitigation of severity* of disasters?

_____

_____

_____

6. What are some of the ways in which the centre responds *to disasters*?

_____

_____

7. Any *post-disaster recovery and rehabilitation* plans in place?

_____

_____
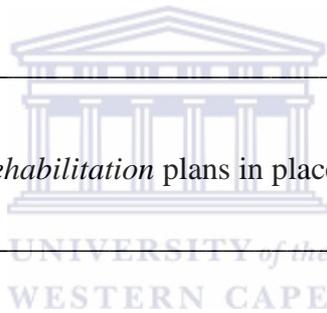
8. What forms of *training* are in place and have been utilised and who are the target audience?

_____

_____

9. Is there any disaster *awareness and public information projects or programmes* are being undertaken in the CoCT? Especially at the community level?

_____

_____

10. How would you describe the effectiveness of the existing national disaster management policy, Act or related legislations?

_____

_____

_____

11. What can you say in terms of the DRMC preparedness for disasters both localised and major?

_____

_____

_____

Section B. Networks and co-ordination opportunities with:-

1. What is the nature of liaison between governmental disaster management entities with the academic of the national disaster management institutions?

_____

_____

_____

2. Are there any *arrangements and achievements* for stakeholder participation with internal role-players?

_____

_____

_____

3. Are there any *arrangements* for stakeholder participation with external *role-players*?

_____

_____

4. If the answer is yes above, please outline some of the achievements.

_____

_____

5. Are there any *arrangements and achievements* for stakeholder participation with *media liaison and public relations?*

_____

_____

6. What are the *means of communications* or ICT tools used by the organisation to inform the public/communities? (E.g. HF radio, TV normal phone lines). How dependable are these communication means?

_____

_____

7. How long does it take to respond to emergency calls?

_____

_____

Section C. How would you describe the capacity and implementation of the DRMC in areas?

1. Are the human resources for the entire CoCTDRMC adequate?

_____

_____

_____

2. How would you describe *staffing and reporting?*

_____

_____

3. Is the CoCT DRMC office (and programmes) fully funded by the government?

_____

_____

4. Is the funds allocated for the DRMC adequate?

_____

_____

5. How would you describe *utilisation of equipment and technology* within the Co CT DMC?

_____

_____

6. How would you describe *information management and communication* within the centre?

_____

_____

Section D: Strengths of and Challenges for the CODRMC

1. What are some of the *strengths of and challenges* for disaster preparedness and prevention in the CoCT municipality?

   a) Strengths

_____

_____

   b) Challenges

_____

_____

2. What are seen as gaps, outstanding needs and requirements for effective disaster management in the municipality and in the region?

_____

_____

3. Is there anything you would like to add or recommend to improve the DRMC?

_____

_____

     Thank you very much for your contribution

ANNEXURE 2: QUESTIONNAIRE FOR THE VOLUNTEERS OF THE CITY OF CAPE TOWN DISASTER RISK MANAGEMENT CENTRE.

Date of Interview..

Area in which you are based..

Your volunteer position...

Section A: Ensuring institutional capacity of the DRMC for Disaster Management

1. How long have you been working as a volunteer?
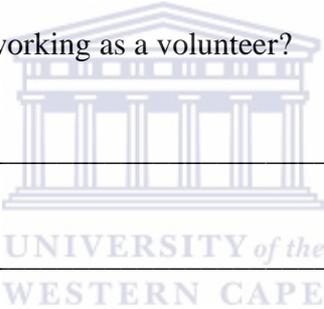
_____

_____

2. How were you recruited and how have they retained you here?

_____

_____

3. Kindly mention some of your responsibilities/duties.

_____

_____

4. Have you received any form of training?

_____

_____

5. Do you have access to all necessary resources to enable you to do your work effectively?

_____

_____

6. What are the means of communications or ICT tools used by the organisation to inform the communities/pubic of any disasters? (e.g. HF radio, normal phone lines).

_____

_____
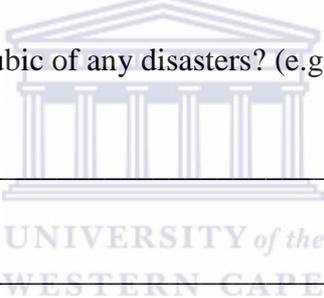
7. After how long do you get a response after making emergency calls to the CoCTDRMC?

_____

_____

8. How dependable are these means of communication?

_____

9. What are some of the challenges that you face in line your of duty?

_____

_____

10. What are some of the strengths you encounter in line your of duty?

_____

_____

11. What do you think should be done to improve the way you work?

_____

_____
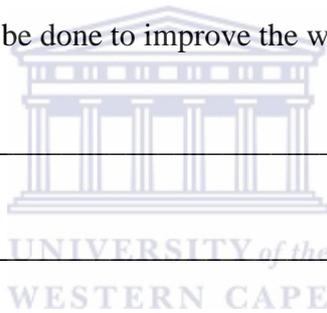
Thank you very much for your contribution

ANNEXURE 3: INTERVIEW QUESTIONNAIRE FOR HIGH SCHOOL LEARNERS WHO PARTICIPATED IN THE YES DRAMA FESTIVAL: CITY OF CAPE TOWN AND DISASTER RISK MANAGEMENT CENTRE (2012)

Name of the school..

_____

1.   Were you aware of the Disaster Risk Management Centre of the City of Cape Town before you participated in the Drama Festival?

YES   ☐   NO   ☐

2.   If your answer was *yes* to the above question, how did you know about it? **Mark** where suitable below:

WHERE YOU HEARD	ANSWER
School	
Community	
Media (like T.V/Radio)	
Other (please specify)	

3.   Have you ever experienced any form of disaster in your home or school (e.g., floods/fire)?   YES ☐   NO ☐

4.   If *yes*, how did you deal with it?_____

5.   Have you ever shared the information you gained from the workshops with family or friends?   YES [   ]   NO [   ]

6.   How will you use the information and education you have received from the City of Cape Town team?

_____

_____

7.   What would you like to be improved on the way the programme was implemented (done)? _____

_____

8.   What can you say about the whole experience? _____

_____

Thank you very much for your participation.