

**FACTORS AFFECTING POLICE OFFICERS EFFECTIVENESS IN DISASTER SCENE
MANAGEMENT IN NAIROBI CENTRAL BUSINESS DISTRICT**

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DECLARATION

I hereby certify that this is my original work and has not been submitted in any other university for the award of a degree:

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This project has been submitted for examination with my approval as the university supervisor:

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Signature _____ Date _____

DEDICATION

This project report is dedicated to my loving family whose support and encouragement has enabled me complete this course.

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ACRONYMS/ABBREVIATIONS

CBD	Central Business District
DM	Disaster Management
KPS	Kenya Police Service
OCPD	Officer Commanding Police Division
SPSS	Statistical Package for Social Sciences
UN	United Nations
WHO	World Health Organization

ABSTRACT

The purpose of this study was to explore the effectiveness of police officers in disaster scene management in Nairobi central business district. The study was conducted in Nairobi CBD because of the frequent fatal disasters that have occurred in the recent history. The specific objectives were; to assess the extent to which police officers are adequately equipped to manage disaster scene in Nairobi CBD, to assess the effect of human resource capacity on disaster scene management by police officers in Nairobi CBD and show how terms and conditions of service of police officers affect disaster scene management in Nairobi CBD. This research used survey design. The target population for this study was 567 police officers within Central police Division as it covers CBD County. Sampling was done at 30% which translated to a total of 171 police officers though 150 questionnaires were filled and returned, this translated to 87.7% which according to Mugenda and Mugenda 1999 was rated as excellent for analysis and therefore used. Quantitative data was collected using an questionnaire, "The questionnaire had open-ended questions to also enable the researcher to collect qualitative data. The interview guide was administered to the OCPD and the In Charge Training Personnel through face interviews to allow for further probing. Descriptive analysis such as frequencies and percentages were used to present quantitative data in form of tables. Content analysis was employed for the qualitative data and then presented in prose. The study also conducted a regression analysis to establish the relationship between the variables. From the study findings, it was established that most of the police officers in the CBD were moderately equipped to manage disaster scene in Nairobi CBD. The study established that human resource capacity affects police effectiveness in disaster scene management within Nairobi CBD to a great extent. With regard to terms and conditions, the study concludes that terms and conditions of service in the police force affect police effectiveness in disaster scene management within Nairobi CBD to a great extent. The study concludes that the forms of community support affect police effectiveness in disaster scene management within Nairobi CBD to a great extent. The study therefore recommends that the County government in charge of the CBD make haste and purchase all the necessary equipment that the officers need and increase the number of officers within the CBD. Security of the CBD should be a priority even for the national government as it is the mirror of the entire country.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Organizing administrative machinery, dealing with disasters, is a vital responsibility of governance. Strong and effective emergency management has been a felt need in all corners of the world. Responsiveness of governance becomes evident in the manner in which it addresses the crucial task of ameliorating suffering and reducing losses. Public servants have a responsibility for formulating policies and building capacities for dealing with such situations. The public perceives governments to have learnt from experience, theirs and others. It is, therefore, important to study disaster management to locate factors that make a critical difference in effective policy outcomes.

A disaster can be defined as a sudden extraordinary event that brings great damage, loss, destruction and injury to people and their environment (Stanhope and Lancaster, 2008). Bradt & Drummond (2007) also defined a disaster as a phenomenon that leads to massive destruction of infrastructure. A disaster can be classified either as man-made or natural incident that causes destruction that cannot be relieved without assistance. Disasters can also occur either internally, that is within the healthcare facility, or externally, that is outside the healthcare facility (Hassmiller, 2008).

Disaster management is made up of four phases which are: mitigation, preparedness, response and recovery (Joint Commission on Accreditation of Healthcare Organizations, 2003). Mitigation involves all the activities taken to prevent the occurrence of a disaster wherever possible (Maurer and Smith, 2005). Preparedness is defined as all the activities and measures taken in advance of an event to ensure effective and coordinated response to the effects of the hazards (WHO Expert Consultation, 2007). The response phase is the point at which actions are taken to save lives, property, and the environment and to prevent secondary harm (National Commission on Terrorist Attacks Upon the United States, 2004). During the recovery phase efforts are started that lead to a restoration of the community back to normal (Ciottone, 2006)

Disaster management (DM) has received increasing attention in public policy research due to an increase in the number of natural and manmade disasters and casualties, as well as the damage caused by those events. During the past three decades, emergency management has become more professionalized. An important part of this transformation has been the explosive growth in higher education programs designed to provide the fundamental knowledge and skills required of emergency managers. History showed that well-implemented disaster management policies can save lives and reduce costs in a disaster. All disasters have shared the characteristic of being monumentally costly, both in lives and in capital. As the world's nations grow in population size and technical sophistication, the total destructive capability of disasters have also increased. Natural threats can be understood in a continuum including man-made disasters that are chemical, biological, nuclear or technological in nature (Hassmiller, 2008). This continuum has led to the professionalization of those in the field of emergency management, who work to mitigate, prepare, respond, and recovery from disasters.

Managing disasters is a complex and dynamic task. Major, catastrophic threats are real, but the fact that they are infrequent and unpredictable make dedicated funding, interest, and political movements difficult to manifest. During the past three decades, emergency management has become more professionalized. Due to the increase in frequency of disasters especially man-made one like terrorist attacks then there was a radical shift at the end of the twentieth century in disaster management. Most countries now have a greater emphasis on two pertinent aspects of disaster management which are: mitigation and response.

When disaster strikes, most people think immediately of first responders—police, fire, emergency medical, and the like. Effective policing play a vital role in mitigating the impact of disasters and reducing likely losses of life and property. Yet, it had been noted that such losses were increasing, raising questions about efficacy of police in disaster management. Kenya has also had its fair share of disasters. In January 2009, around 150 people died and more than 200 were injured in Sachangw'an village, Molo district in Kenya, when an overturned oil tanker that they were trying to siphon oil from caught fire

and exploded (Mutai and Njoroge, 2009). Sadly, this was not the first time that such a disaster had happened in Kenya, nor was it the last. Five months later in June 2009, 4 people died and 44 were injured when another oil tanker they were siphoning oil from exploded near Kapsoit trading centre in Kericho (Mutai and Njoroge, 2009). This was again repeated in September 2011, when four people died and 37 were injured in Busia, when an overturned petrol tanker exploded into flames while residents were siphoning fuel. A few days after nearly 120 people died from a fire at a pipeline fuel spill in a slum in the capital, Nairobi (Hassmiller, 2008). In all of these disasters, there were reports that residents had refused to heed warnings from police officers to keep off the oil tankers after they overturned. Many of those killed in the fire disasters had hoped to sell the petrol on the black market to help them buy basic needs.

1.2 Statement of the Research Problem

Due to increase in the frequency of disasters especially man-made ones, there was a radical shift at the end of the twentieth century in disaster management. Most countries now have a greater emphasis on two pertinent aspects of disaster scene management which are: mitigation and response. Disaster mitigation focused on identification of key competencies needed for effective emergency response while disaster preparedness focuses on increased attention to planning for and practicing for emergency response (Abdelazeem et al, 2011a).

The process of police reform has made important progress in recent years but key challenges remain, including in relation to police accountability and effective service provision (Ndung'u, 2008). The National Police Service is most of the time underfunded (Kivoi and Mbae, 2013; Ransley Report, 2009). This has hampered its efforts to modernize itself and be up to task to match the sophisticated nature of today's police operation. In most cases, police equipment is either outdated or nonexistent, while bureaucratic obstacles, intra-agency rivalries and a lack of funding prevent the police from obtaining the technology needed in their operations (Ndung'u, 2008). Also the police service lacks personnel in ICT to tackle crime using up to date technology. In most cases, police equipment is either outdated or nonexistent, while bureaucratic obstacles,

intra-agency rivalries and a lack of funding prevent the police from obtaining the technology needed to track down suspects (Kivoi and Mbae 2013). Further, as in many other contexts the introduction of new technologies experience resistance from within the National Police Service due to concerns about how ICTs could be used (and misused) against police officers (Usalama Forum, 2012; Amnesty International, 2013).

Poor resource management can be a liability in disasters where time and resources are scarce among the police. Knowledge about factors that influence situation awareness is valuable in disaster management. With disasters increasing in frequency and costs each year, this study seeks to explore the factors affecting effectiveness of police officers in disaster scene management in Nairobi Central Business District.

Disaster management is often characterized by a shared authority, dispersed responsibility, and resources that are scattered across large geographical areas. Achieving effective disaster scene management has repeatedly proved to be a critical commodity in collaborative environments. Efficient disaster mitigation is dependent on collaboration between people from the emergency rescue services, voluntary organizations, actors from the industry, municipality, and external expert organizations. Collaboration includes working to achieve common goals, and all types of collaboration include information sharing between the involved parties.

The literature available does not focus primarily on the factors that influence effectiveness of disaster scene management. For example, Mwenda (2005) reviewed how the Kenya police force budget affects crime management; Price (2011) conducted a study on police and emergency management focusing on expanding police capabilities for disaster response; Godschalk, Beatley, Berke, Brower and Kaiser (1999) did a study on natural hazard mitigation: recasting disaster policy and planning while Nicholson (2003) focused on Emergency response and emergency management law: cases and materials. Most of these studies apart from Mwenda (2005) are done in other countries and not Kenya. There is available literature on disaster management but none captures the effectiveness of disaster scene management by police. With disasters increasing in

frequency and costs each year, this study sought to explore the effectiveness of police officers in disaster scene management in Nairobi central business district.

1.3 Research Questions

The research strove to answer the following questions:-

- i. To what extent are police officers equipped to manage disaster scenes in Nairobi central business district?
- ii. How does human resource capacity of police officers affect disaster scene management in Nairobi central business district?
- iii. How do terms and conditions of police officers affect disaster scene management in Nairobi central business district?
- iv. What are the forms of community support/ resources that enhance the capacity of police effectiveness to manage disaster scenes in Nairobi central business district?

1.4 General objective

The overall objective was to establish the factors that affect police officers effectiveness in disaster scene management in Nairobi central business district.

1.5 Specific Objectives

The study was guided by the following specific objectives:

- i. To establish the extent to which police officers are adequately equipped to manage disaster scene in Nairobi central business district.
- ii. To assess the effect of human resource capacity on disaster scene management by police officers in Nairobi central business district.
- iii. To show how terms and conditions of service of police officers affect disaster scene management in Nairobi central business district.
- iv. To identify the forms of community support/ resources that enhance the capacity of police effectiveness to manage disaster scenes in Nairobi central business district.

1.6 Justification of the Study

The study is important since it seeks to analyze the police officers effectiveness of the disaster scene management in regard to Nairobi central business district. It will contribute to the existing literature on the subject of disaster management especially at the stage of mitigation and prevention. The study will be relevant to the Kenyan setting thus will provide more realistic approach to the topic of disaster management especially at the stage of mitigation and prevention.

The finding of this study may inform key stake holders on the effectiveness of their disaster preparation and mitigation at the police service. It may reveal the improvements that are needed thus will inform the relevant stakeholders by making recommendations on the disaster scene management. The stakeholders include the government of Kenya and other stakeholders in the ministry of security. The government through this study may be at a position to improve the policies for effective disaster scene management. The findings of this study may also help to reduce the impact of disasters on people. By understanding the state of disaster scene management in the country, citizens can learn some of the vital information that can be used to prevent them from some disasters, which will in turn go a long way in reducing the loss of life due to disasters.

1.7 Scope and Limitations of the Study

The main focus of the study were the factors affecting police officers' effectiveness in disaster scene management in Nairobi Central Business District. Data was specifically collected from all levels of police officers at the various police stations in Nairobi. These were considered as major respondents of the study. The aim was to collect data from the respondents with a view to determining the factors that influence police officers effectiveness in disaster scene management in Nairobi Central Business District. These factors specifically include human resource capacity deficits with aspects such as administrative process, staff capacity/ competence, inadequate pay and budgetary allocation; poor terms and conditions of services for police including their compensation, health insurance, working hours and officers' safety. The factors also include community support with aspects such as community participation and volunteer management

organizations and finally infrastructure/susceptible communication system which include transportation, communication equipments, minimal vehicles, poor servicing of vehicles, inadequate fueling of vehicles and also poor developed it infrastructure.

A descriptive survey research design was used and a number of limitations encountered, this includes the period allocated for the study was limited and had to combine the study and work given that the researcher was employed.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

In this second chapter, relevant literature information that is related and consistent with the objectives of the study was reviewed. Important issues and practical problems were brought out and critically examined so as to determine the current facts. This section is vital as it determines the information that link the current study with past studies and what future studies will still need to explore so as to improve knowledge.

2.2 The Role of Kenya Police Service in Disaster Management

The police, who perform the central role in dealing with the problem, are therefore required to perform the role sympathetically, sensitively and with kindness. In addition, there is the potential for more casualties of disasters to occur amongst members of the police service dealing with the event. The welfare, morale and stress issues of the police force have to be attended to by the senior managers of the police force in order to achieve best possible results (Gachago, 2010).

Given the relative infrequency of major disasters, it is unrealistic to expect police forces to have necessary resources, skills and logistics to manage a major disaster. Although police provides the initial response to an incident and, together with the other emergency services, conducts rescue and first aid activities, the sheer scale of a major disaster means that most of the core management functions involved in the post rescue phase is beyond the experience of most police forces. This inexperience places high level of strains on officers in management roles. An efficient management can do much to assist officers to cope with the onerous experiences associated with major disasters by way of planning in respect of predictable/foreseeable disasters and training in general, for all types of disaster (Office of the president, 2009).

The police have to maintain a state of readiness so that they can provide a rapid response and alert local authorities and other services as soon as possible. During the occurrence of a disaster, there is need to adopt an emergency operation centre as a hub. Its system and procedures should be designed in such a way that information can be promptly assessed and relayed to concerned parties (Carter, 1992). All organizations that need to respond quickly to disasters should have arrangements which can be activated at short notice. A well rehearsed emergency plan developed as part of the preparedness phase enables efficient coordination of rescue. The police perceive that depending on injuries sustained by the victim, outside temperature, and victim access to air and water, the vast majority of those affected by a disaster will die within 72 hours after impact, hence swift measures should be made to combat any adverse effect, (Kirschenbaum, 2002)

The police co-ordinate the activities of all those responding at and around the scene, which must unless a disaster has been caused by severe weather or other natural phenomena – be treated as the scene of a crime and preserved accordingly. The police have to play a key role in the disaster management no matter what type and nature, it has to be very quick in its initial response to a disaster call or situation. If a disaster is predictable or foreseeable like floods, riots the police must keep itself in readiness to respond to it professionally and competent manner. In others like natural calamities promptness of the police response can help in saving number of lives and return situation to normality (Gimode, 2007).

The police response to disaster will vary, just as the nature and effects of the disaster will vary and such police response should be an integral part of a combined and coordinated operation involving differently emergency services Police should concentrates on the effects rather than the cause of the disasters and wherever possible should plan it in advance integration in emergency management embraces a number of concepts, some of which may overlap (Omeje &Mwangi, 2010). The saving of lives in conjunction with other emergency services, coordination of the emergency services and other organizations, traffic and crowd control, conducting investigations of the incident in conjunction with other investigative bodies where applicable and taking control of collection and dissemination of casualty information. They also help in identification of victims and also participate towards restoration of normality at the earliest opportunity.

Since police officers are the first ones to arrive to the disasters scenes they should cordon the scene off and prevent people from thronging the scene. From the experience it has shown that a large number of people try to reach the scene of occurrence out of sheer curiosity or with the intention of extending their assistance to affected persons. The police have to establish the outer cordon around the site of disaster to control access to the whole of disaster site if practical. This will ensure that no unwarranted person's gains entry but a Rendezvous point away from scene but within easy reach of the incident should be selected and manned by police to receive and direct emergency service vehicles and personnel. Traffic arrangement shall be made to divert the traffic away from the scene of disaster (Hassmiller, 2008). This can be notified through radios, public address T.V and traffic policemen this is to clear the traffic to ensure that the vehicles of emergency services face no hindrance or delays e.g. fire brigade, ambulances to enhance rescue, relief operations and evacuations.

2.2.1 Police Equipments on Disaster Scene Management

Latest studies indicate that the Kenyan police are critically challenged with regard to transport facilities. The policing needs far outweigh the transport resources at their disposal. Whereas there are minimal vehicles to carry out their duties, the few available resources are poorly serviced and scarcely fuelled with each police vehicle having a quota of 10 litres of fuel a day (i.e. every 24 hours) regardless of the jurisdiction (Omeje & Mwangi, 2010). The lack of reliable transport means therefore shows that the police are ineffective in their response to incidents of disaster management. Similarly, it also minimizes police presence in certain crucial localities, making it impossible for them to access this place with urgency.

The police acknowledge that their mere presence in various localities is in itself deterrence to crime. The poorly serviced vehicles also mean that the police cannot match the speed and efficiency with which criminals often escape from crime scenes. Therefore there is a correlation between their response to disaster scene and their transport infrastructure (standard news paper, 6/6/200).

According to Omeje and Mwangi (2010), the police are deficient in a number of ways. The first is that their communication equipments are susceptible to being tapped and in

the past, criminal elements have used this sort of subversion to gain access to confidential police communication. The communication gadgets are also highly limited in number relative to the communication needs of officers. The result is that they have in many instances used their mobile phones at their own expense to carry out their official duties.

Inadequacy of data collection, analysis and storage of information therefore, leads to poor planning, lack of institutional memory and improvement towards best practices. Similarly, this inadequacy has also resulted in lack of effective monitoring and evaluation of disaster risk trend analysis and forecasts hampering the police effectiveness in disaster scene management (OP, 2009). Though local study established that police officers are not adequately equipped to respond to emergencies in the country, there exists a literature gap on to what extent are police officers equipped to manage disaster scenes. This study therefore seeks to determine the extent to which police officers are adequately equipped to manage disaster scene in Nairobi central business district.

2.2.2 Human Resource Capacity on Disaster Scene Management

The participating institutions charged with handling disasters in the country are faced with inadequate budgetary allocation and conditional donor support; such that the amount of money made available for the Disaster Management is far less than the realistic amount actually needed to manage successfully. In addition, there are other related problems, for example, the turn-round time for proposals to realize money in the non-food sub-sectors is excessive because of inadequate technical handling. Also, procurement procedures remain largely cumbersome. Furthermore non-availability of specialized equipment hampers effective disaster management in the country. This rising demand for funding has made Government increasingly reliant on development partners to fund Disaster Management initiatives (Office of the president, 2009).

The Kenyan police are understaffed and therefore the country is under policed. There are estimates that the Kenyan police have a total population of about 40,000 personnel (figures as at end of 2010). The public - policing ratio can be deduced therefore to be roughly in the ratio of 1:1000 going by the 2009 national population census figures of

roughly 40 million citizens. This is far below the UN recommended police-public ratio of 1:450 (Kimani, 2012). Fieldwork data by Omeje and Mwangi (2010) reveals that a quarter of the Kenyan police are engaged in office administration duties, guarding the political elites or serving as drivers to top government officials. Hence, the active number of police officers engaged in crime prevention, disaster scene management and real public service is about 30,000 personnel.

It is also instructive that a staggering number of 2,500 officers are permanently deployed to the personal service and protection of top political office holders (President, Vice President, Cabinet Ministers, etc). The President and his family alone are guarded by 200 elite squad drawn from the general service unit and the Vice President has 45 armed guards at their disposal (Sunday Standard, May 20, 2012). This lends credence to the view that post-colonial policing philosophy in Kenya has hardly been transformed. The KPF is still overly concerned with regime security as opposed to citizen security (Gimode, 2007).

There are still other factors that affect the capacity of the police. Natural attrition, physical injury, resignation for greener pastures elsewhere and dismissal on disciplinary grounds also contribute to reduced capacity of the police. The last population census figures suggest rapid growth and changes in the country's demographic structure (Omeje & Mwangi, 2010). However, it is apparent that government policy makers have not responded progressively to address the policing needs of a state with rapidly changing demography. For instance, the Kenyan police had a three year recruitment freeze that lasted between 2008 and 2010. The annual recruitment process was resumed again in early 2011. It was established that the recruitment freeze was instituted to wait for the government to establish a Police Service Commission in line with the recommendations of Ransley Report (Police Service, 2009).

According to a study conducted by Gachago and Beethoven (2010) to investigate police preparedness and experience in management of disaster incidents: a case study of police in Nairobi. The study established that slow administrative process, lack of relevant

training, under staffing and political interference are the major challenges that the police face while involved in disaster response activities. Given these findings, the study recommended that the Police Force should procure basic but diverse safety equipment, have as minimal as possible administrative hindrance to rescue services, have substantial resource allocation for disaster management activities and institute disaster management department within the police force. The government should also recruit more police officers to meet the UN standards and improve public police relations to ensure free flow of quality information.

With minimal adoption of modern facilities, equipment and taking up disaster preparedness, mitigation and recovery policies, Kanyi and Paul (2010) carried out a study on Stakeholders assessment of Airport disaster preparedness and mitigation: a case study of Jomo Kenyatta International Airport (JKIA). The core stakeholders constituted the JKIA workers who were directly involved with airport operations including human resources, firefighting, investigation, airworthiness and licensing pilot association and airline associations, while the peripheral stakeholders included taxi operators, tour operators, and tenants and the hospitals within JKIA building. Among the major findings of the research, only 35.7% of the core stakeholders were involved in disaster response activity. Among the peripheral stakeholders, the majority (66.7%) had not taken part in any disaster response activity while 29.2% had participated. On formal training, 46.4% of the core stakeholders had not undergone disaster preparedness and management training. On the part of peripheral stakeholders, 75% had not received any formal training. Concerning mechanisms for coordinating disaster preparedness, recovery and reconstruction majority (53.6%) reported that there were no such mechanisms. Among the peripheral stakeholders, majority (54.2%) reported that there were no mechanisms. since there is no study that has been carried locally on effect of human resource capacity on disaster scene management by police officers; this study intends to fill this gap by assessing the effect of human resource capacity on disaster scene management by police officers in Nairobi central business district

2.2.3 Terms and Conditions of Services on Disaster Scene Management

A study carried out by Omeje and Mwangi (2010) found that police officers are not adequately compensated for their services. They also observed that housing is a challenge for junior officers as they are compelled to share living units of two or three bedroom flat accommodation with other families. The police also lack adequate health insurance given the life threatening dangers they are exposed to in their law enforcement duties and fight against crime. The poor conditions of service are also evident in their operational and logistical facilities.

The lowest ranked police officer, a constable, earned about Kshs 4,645 (US\$60) per month prior to 2004. This was increased in January 2004 to Ksh 10,000 (US\$125) (CHRI, 2006). In 2009 the Kenyan Internal security minister announced a pay increase for police officers, a process that would be implemented in phases. In the first phase the police would get a 28% pay increase in which a constable would earn Ksh 21,205 (US\$265), an additional increase of Ksh 2,400 on their present monthly wage of Ksh 18,805 (US\$235)(Capital FM Kenya, 2011). A typical mid-income salary in Kenya would be about Ksh 50,000 (US\$600) per month. The category of people that would earn this range of monthly income includes bank clerks and middle-ranking government employees.

In general poor conditions of service, for example, the police work for long hours whereas they are supposed to work for eight hours. The promotion system is not based on merit but on nepotism, lack of health insurance and shortage of housing impact on the way officers do their work and their response to disasters management (Omeje &Mwangi, 2010).

Kagiri and Kamatu (2009) conducted a study on the preparedness and capacity of the Nairobi City Fire service in responding to fire disasters in the City. The study established that; The Nairobi Fire Brigade does not have an elaborate functional structure. The centralization of functions is a major hindrance in their operations; there is laxity in public education. The personnel education entry qualifications are very low and the

number of staff members in the fire is also very low compared to international set standards; the current city planning is a major hindrance to efficiency of the fire Brigade operation. Emergency lanes, narrow roads, poor housing and construction are some of the major problems facing fire brigade; Low capitalisation of the fire Brigade has negated its ability to operate efficiently. Finally the study established that the fire brigade is a fundamental service which should be given the first priority in the City's annual budgetary provisions and planning. This study seeks to fill the gap on how terms and conditions of service of police officers affect disaster scene management since previous have not shed any light on the police force which is vested with the responsibility of serving the nation at times of emergencies. This study will therefore determine how terms and conditions of service of police officers affect disaster scene management in Nairobi central business district.

2.2.4 Forms of Community Support/Resources That Enhance Police Effectiveness to Manage Disaster Scenes

African heads of states summit in 2012 developed a framework to manage disaster emergencies and drought in particular for African nations by the year 2027 that Kenya ratified and a national target set to ending drought emergencies in the country 2022 in the Medium Term Plan III of Vision 2030. Alongside, community participation was crucial among priorities for action in the Hyogo Framework for Action 2005-2015 adopted by 168 member states of the United Nations in 2005 (Musimba & Stephen, 2014). As a result the importance of local initiatives and participatory and gender sensitive approaches in disaster risk management and sustainable development have gained popularity in the country. The Constitution of Kenya set the stage for paradigm shift in terms of institutional reforms providing for citizen participation. Devolution of government and public participation are not only new, but also critical components of national development. While the constitution strongly advocates for citizen participation in the country as a fundamental right to involve local communities in building disaster resiliency for effective drought risk management.

The responsibility for responding to incidents, both natural and manmade, begins at the local level: with individuals and public officials in the county, city, or town affected by the incident. Local leaders and emergency managers should prepare their communities to manage incidents locally. Through Volunteer management organizations, the communities can make a vital element at large scale disasters and save thousands of lives through their individual expertise and technical knowledge and enhance productivity at many emergency scenes (FEMA, 2011).

The linkages on disaster management capabilities between local communities, on the one hand, district and national levels, on the other, have remained weak in Kenya. In addition, the general degradation of traditional African socialism and livelihood systems has resulted in the progressive erosion of the traditional coping strategies. The Kenyan community has not been sufficiently sensitized on disaster management, especially, in preparedness and coping mechanisms thereby, increasing dependency syndrome and thus increasing vulnerabilities and potential impacts on the victims. More recently, there have been new challenges in the management of disaster cycles, especially in the process of relief, repatriation, rehabilitation and resettlement geared towards recovery of Internally Displaced Persons (IDPs) (GoK, 2009).

Stakeholders in various organizations including the police force often view community participation simply as a matter of training emergency response volunteers and ignore, rather than support, initiatives developed by community based and especially women's and youth groups. Musimba and Stephen (2014) conducted a study on the Role of community participation in drought risk management in Kilifi County, Kenya. The researcher examined the role of community participation in beneficiary identification, needs identification, information dissemination, ownership and control in disaster risk initiatives and described their effects on the management of drought disaster risk management and found that there was a significant role of community participation in drought risk management as the process was implemented by the community themselves although in most of the cases the criteria was predetermined and dominated by experts who assertively considered the contribution of community. The study recommended that

stakeholders needed to set up an integrated disaster management stations fully furnished with facilities so that many people can get information early, timely and adequately. Development partners need to assist the county government to form community units at the sub counties and train them adequately to become community drivers for disaster management. Development agencies and the government needed to create awareness among the male population on the importance of participating in disaster scene management.

The responsibility for responding to incidents, both natural and manmade, begins at the local level: with individuals and public officials in the county, city, or town affected by the incident. Local leaders and emergency managers should prepare their communities to manage incidents locally. Through Volunteer management organizations, the communities can make a vital element at large scale disasters and save thousands of lives through their individual expertise and technical knowledge and enhance productivity at many emergency scenes (FEMA, 2011).

2.3 Theoretical Framework

Understanding differences in environmental risk perception and risk judgments might facilitate the development of effective environmental risk management strategies, including risk communication. Cultural theory holds that systematic individual differences exist in the perception of environmental risks based on four different myths of nature: nature benign, nature ephemeral, nature perverse/tolerant, and nature capricious. Hence Scholars came up with the theories that can assist us to give a critical analysis to situation that face people in a society today fire, floods disasters being among them.

2.3.1 Theory of Modernity as Risk Society

Risk is defined in the risk society as a systematic way of dealing with hazards and insecurities induced and introduced by modernization itself (Beck, 1992). The argument is that the distribution of the risk originates from knowledge as opposed to wealth. While the wealth person may have access to resources that enables him or her to avert risk it would not even be an option were the person unaware that the risk even existed and

therefore risk position is fundamentally dependent on knowledge and access to information which may or may not correlate to economic status but often does.

Human are subject to risk, modern society is exposed to a particular type of risk that is the result of the modernization process itself altering social organization. Risk like natural disaster that have negative effects on human population but are seen to be produced by non-human forces, modern risk are product of human activity. These two different types of risk can be referred to as external risk and manufactured risks (Giddens, 1999). A risk society is predominantly concerned with manufactured risk. The difference between the two is that there is a significant level of human agency operating in the production and mitigation of manufactured risks i.e. manufactured risk are the product of human activity, there is the potential to assess the level of risk that is being produced or that is about to be produced. As a result risk has transformed the modernization process itself. For instance human introduced disasters like Chernobyl and the love canal crisis, public faith in the modern project has declined, leaving a variable trust in industry, government and experts (Giddens, 1990). The increased critique of modern industrial practice has resulted in a state of reflexive modernization. A concept that demonstrates reflexive modernization is sustainability and the precautionary principle that focus on preventive measure to decrease level of risk.

Beck's (1992) *Risk Society* is just such a label; its intent is to underscore his position that society, in this era of advanced modernity, is dominated by the ubiquity of risks, not only as the dominant consciousness of the age but also as the challenge that threatens to overwhelm societies. The social order in the early days of modernization was centered on economics, especially the distribution of economic output, i.e., who got what. That distribution was directly tied to social class, with those at the top getting more and those at the bottom getting less. In Beck's view, this order of things has been turned on its head in the contemporary era. Beck argues that, in the Risk Society the concern is no longer with the distribution of *goods* but with the distribution of *bads* namely; the realization of untoward risks. Because many risks (e.g., nuclear fallout) do not respect class boundaries, everyone is, therefore, equally at risk. This dissolving of social class means those social

actors are “individualized,” thrown on their own without the collective identity of social class.

Beck (1994) proposed a theory of “reflexive modernity” in which the role of technology is explicitly recognized and discussed in terms of transformations in the nature of rationality. Beck starts out from the same concept of differentiation as Habermas, but he considers it to be only a stage he calls simple modernity. Simple modernity creates a technology that is both extremely powerful and totally fragmented. The uncontrolled interactions between the reified fragments have catastrophic consequences. Beck argues that today a risk society is emerging, especially noticeable in the environmental domain. “Risk society...arises in the continuity of autonomized modernization processes which are blind and deaf to their own effects and threats. Cumulatively and latently, the latter produce threats which call into question and eventually destroy the foundations of industrial society” (Beck, 1994).

The risk society is inherently reflexive in the sense that its consequences contradict its premises. As it becomes conscious of the threat it poses for its own survival, reflexivity becomes self-reflection, leading to new kinds of political intervention aimed at transforming industrialism. Beck places his hope for an alternative modernity in a radical mixing of the differentiated spheres that overcomes their isolation and hence their tendency to blunder into unforeseen crises. “The rigid theory of simple modernity, which conceives of system codes as exclusive and assigns each code to one and only one subsystem, blocks out the horizon of future possibilities. This reservoir is discovered and opened up only when code combinations, code alloys and code syntheses are imagined, understood, invented and tried out” (Beck, 1994).

In this myth of modernism faith in science and progress drives an industrial society perceived as a ‘thoroughly modern society’ (Beck, 1992). Beck questions science’s claim to elitist truth and enlightenment. Scientists have made errors that have resulted in environmental disasters. He does not call for the end of science but for a change within

science. He extends scientific skepticism to the foundations and consequences of science itself (Beck, 1992).

According to Giddens (1999) and Beck (1992), risk is as unpredictable in the modern world as they are extra ordinary events and circumstances such as accidents associated with nuclear power plants and weapons. While Ritzer understand risk as predictable one without surprise as he conducted his study in America and the environment was calm while Giddens and Beck conducted their study in Europe where there was ravages of nuclear war in Soviet union(Ritzer, 1996).

2.3.2 Chaos Theory

According to Bower (1988) chaos is the irregular, uncertain discontinuous aspect of change within the confines of a patterned whole. This means that there are those events we cannot predict in an organizational life and even in our desire to create order and control of the situation; events often seem one step ahead of our best efforts. Heinz (1988) noted that, “life is nonlinear. And so is everything else of interest.” clearly what makes disaster situations particularly interesting and challenging is the inherent nonlinearity in such events. Chaos theory describes the behavior of certain non linear dynamical systems that under specific conditions exhibit dynamics that are sensitive to initial conditions (popularly referred to as the butterfly effect.) as a result of this sensitivity, the behavior of chaotic and unpredictable results can and will occur in systems that are sensitive to their initial conditions.

The two main components of chaos theory are the ideas that systems – no matter how complex they may be – rely upon an underlying order, and that very simple or small systems and events can cause very complex behaviors or events (<http://www.imho.com/grae/chaos/chaos.html>). Bower (1988) further noted that as a qualitative study, chaos theory investigates a system by asking about the general characteristics of its exact future term behavior rather than seeking to arrive at numerical predications about its exact future state.

In disaster research, Sellnow et al (2002) used chaos theory when examining a flood and the manner of communication by emergency personnel and survivors. From their abstract: “Communications related to river crest predictions (fractals), the shock at the magnitude of the crisis (cosmology episode), novel forms of reorganizing (self-organization), and agencies that aided in establishing a renewed order (strange attractors).” The researchers found patterns and episodes of self- organization when various responding units attempted to reduce the chaos through novel and grass-roots efforts to bring order to communication practices and efficiencies.

New thinking in response to the recognition o nonlinearity in human and organizational systems has focused on the functionality of disorder and instability (Kiel, 1994). Management scholar Ikijiru (1988) offers a view of the functionality of disorder and instability in organizations; Chaos widens the spectrum of options and forces the organizations to seek new points of view. For an organization to renew itself it must keep itself in a non equilibrium state at all times. Quarantelli (1995) briefly mentions chaos theory as a framework worth exploring further.

2.3.3 Complex Adaptive Systems Theory

Dooley (1997) argued that a paradigm shift has taken place in organization science over the last century. The deterministic Newtonian approach was used to understand the future scheme of an organization by utilizing the current environment and structure of that organization. The basic assumption of this approach was that the systems would continue to do the things that they are supposed to do if they were provided with a suitable situation, adequate resources, and convenient environmental conditions. Managerial theories in the beginning of the 20th century depended on this assumption (Dooley, 1997); Taylor, Fayol and other scientific management theorists built their mechanical metaphor for organizations on this deterministic approach (Moffat, 2003). Unlike mechanical approaches, complexity theory defends the notion that stability stands between order and disorder, firmness and chaos; what is called, edge of chaos (Kauffman, 1993).

Quantum theory's uncertainty clause altered the deterministic-Newtonian approach not only in physics but also in the social sciences (Dooley, 1997). Moffat (2003) argued that organizations exist in complex environments. These complexities are related to the nonlinear interactions (non-equilibrium order), decentralized control (or self-organization), adaptation, and collectivist dynamics of the organization (Moffat, 2003). Complex adaptive systems have some common attributes, such as parallelism, conditional action, modularity, and adaptation. Parallelism explains the simultaneous relationships existing among the systems. Conditional action is the responsive strategic ties' reporting feedbacks to the system. Modularity suggests some predetermined batch commands by which a system can overcome a problem.

Adaptation and evolution is the final phase for a CAS, because the learned patterns become involved in the system, which means a change in structures and goals (Holland, 2001, 2006). Non-hierarchical relationships such as friendships, social contacts, and even accidental communications can directly affect the effectiveness of complex adaptive systems (Krackhardt & Stern, 1988). Morel and Ramanujam (1999) defined complex adaptive systems as an interdisciplinary area from which organizational behavior can benefit. Complexity and organizations are inevitably and naturally related (Axelrod & Cohen, 1999), but the relationship between these two concepts is complicated. Large numbers of non-linear elements make the study of complex adaptive systems difficult (Morel & Ramanujam, 1999).

Anderson (1999) examined the complex adaptive systems theory as a product of open systems theory because of its inclusion of environmental dependence as a factor. Interactions with the organizational environment cannot be accomplished through conventional hierarchical ties. Thus, organizations set up non-linear relations within and outside the system body to increase communication channels. These strategic ties that exist both inside and outside the system follow a descent path to increase efficiency and decrease dependency on the environment (Stacey, 1995). Stacey (1995) called the ties strategic because they provide both negative and positive feedback that helps the

organization stay in an equilibrium state, which means that the organization can survive the situation despite detrimental effects.

Scholars interpret the steps of complexity in similar terms. Anderson (1999) defines the key elements of the complexity theory as agents with schemata (1999, p. 221), self-organizing networks sustained by importing energy (1999, p. 221), co-evolution to the edge of chaos (1999, p. 223) and finally —system evolution based on recombination (1999, p. 225). McKelvey (1999) argues that four fundamental forces replace Scott's (2003) organization metaphors, which are; adaptive tension, self-organization, interdependency effects, and multilevel co-evolution (1999).

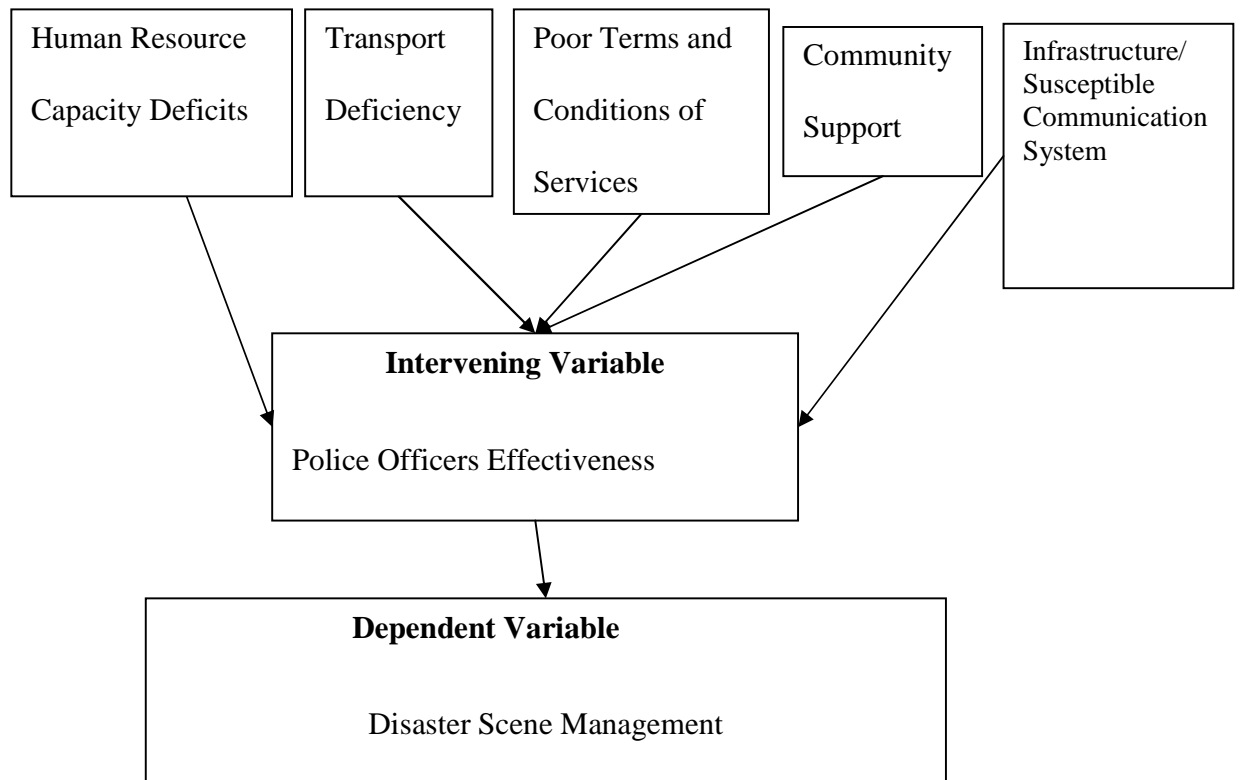
In complex adaptive systems, the agents interact with each other regarding their perceptions, actions, and social roles in organizations. The first element of complexity is that the interactions will influence every single agent's thinking and behaviors. These changes in agent thinking and behavior will alter the process principles of the entire organization (Rouse, 2000). The second element explains the self-organization of the system. After affecting and changing each other's behaviors in the system, agents' interactions create positive feedbacks; therefore, they do not need to be changed. Stability in interaction and organizing makes it possible to stay steady for the system without the involvement of a central or outside impact (Anderson, 1999).

2.4 Conceptual Framework

The conceptual framework includes the independent variables (Police Equipments, Human Resource Capacity, Terms and Conditions of Services and Forms of Community Support. Moderating variables (Police Officers Effectiveness). Dependent variable (Disaster Scene Management).

Figure 2.1: Conceptual Framework

Independent variables



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter deals with research design, population and sample, data collection methods, research procedures, data analysis methods and finally the chapter summary

3.2 Description of Site of Study

The study was conducted in Nairobi CBD because of the frequent fatal disasters that have occurred in the recent history. According to Nairobi fire service (2009), 545 incidents occurred in the year 2006, 561 in 2007, 661 in 2008 and 532 in 2009. In 2008 Nairobi was elevated to Metro Politan and as a result Ministry of Nairobi metropolitan was created by Presidential circular number 1 of April 2008. This ministry was in-charge of preparation and enforcement of integrated strategic programs for provision of social, economic and structural services. This led to the changing of administrative boundaries. However for the purpose of this study, the researcher used the old administrative boundaries of Nairobi CBD for the year 2006. This decision was guided by the need to examine the police stations that are in the proximity of the disaster in the CBD.

3.3 Research Design

Cooper and Schindler (2003) summarizes the essentials of research design as an activity and time based plan; always based on the research question; guides the selection of sources and types of information; a framework for specifying the relationship among the study variables and outlines the procedures for every research activity. The design of this research was a descriptive survey research. This design refers to a set of methods and procedures that describe variables. It involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data. Descriptive studies portray the variables by answering who, what, and how questions (Babbie, 2002). This approach has been credited due to the fact that it allows analysis the relations of variables under study using linear regression as long as the sampling units for the study are many. It also allows greater flexibility in terms of money and time as well as avoiding the hardship of hunting

for respondents more than once to produce high response rate. This method was deemed suitable for the study because the study aimed at coming up with questions that are as precise as possible in getting accurate answers as Kothari (2004) advises.

3.4 Units of Analysis and Units of Observations

Units of analysis are the social entities whose social characteristics are the focus of the study (Babbie, 2002). The unit of analysis in this study was the Police department. The study aimed to assess police officers effectiveness in disaster scene management in Nairobi CBD.

The unit of observation was individual placed in strategic positions as a result of having important data to the research (Babbie, 2002). In this study the unit of observation was police officers. The study focused on the effectiveness of police officers in disaster scene management in Kenya and the factors affecting their effectiveness in the context of disasters, if they had operational capacity to respond to disasters and the strategies being considered by the police in the face of increasing disasters.

3.5 The Target Population

According to Mugenda and Mugenda (2003), population is the entire group of individuals or items under consideration in any field of inquiry and has a common attribute. The target population for this study was 567 police officers within Central police Division as it covers CBD County). The populations per station included; 285 police officers from Central, 133 from Kamukunji, 87 from KICC and 62 from Parliament police station. This included general duties officers from the rank of police constable to senior sergeant and other senior officers from the rank of inspectors to assistant commissioner of police.

Table 3.1: Target Population

Police station	Number of police officers	Percentage
Central	285	50.3
Kamukunji	133	23.5
KICC	87	15.3
parliament	62	10.9
Total	567	100.0

Source: Central Police Division Registry, 2015

3.6 Sampling and sampling procedure

3.6.1 Sample Size

A sample size of between 10 and 30 % is a good representation of the target population and hence the 30% is adequate for analysis (Mugenda & Mugenda, 2003). The sample size of this study was therefore 171 respondents.

Table 3.2: Sample Frame

Police station	Number of Police Officers	Ratio	Sample Population
Central	285	0.3	86
Kamukunji	133	0.3	40
KICC	87	0.3	26
parliament	62	0.3	19
Total	567		171

Source: Central Police Division Registry, 2015

3.6.2 Sampling Procedure

Ngechu (2004) underscores the importance of selecting a representative sample through making a sampling frame. From the population frame the required number of subjects, respondents, elements or firms was selected in order to make a sample. The study applied stratified sampling technique where 30% of the population in each sampling frame was selected to participate in the study. For the exact individuals to participate in the study, Simple random sampling technique was used to select the sample. This was achieved by asking the officers in each station to pick pieces of paper mixed in a container. The papers written “Yes” was equal to the sample size per station and those written “NO” composed the remaining population in each station. The officers were then invited to pick the papers randomly and without returning the picked papers in containers. Those who picked “Yes” were followed and interviewed. Proportionate number of police officers was drawn based on the sampling framework in each police station as shown in table 3.2. Those with a large sampling frame therefore had more officers interviewed proportionally. According to Cooper and Schindler (2003), simple random sampling frequently minimizes the sampling error in the population. This in turn increases the precision of any estimation methods used.

3.7 Methods of Data Collection

3.7.1 Collection of Quantitative Data

The study used semi structured self-administered questionnaire to collect data from the police officers. Mugenda and Mugenda (2003) observed that, the pre-requisite to questionnaire design is definition of the problem and the specific study objectives. Questionnaires items was closed ended or open ended type. As regards to the former, the questions allowed specific types of responses while with respect to the open ended type, the respondents stated their responses as they wished. Kothari (2004) observed that questionnaires are very economical in terms of time, energy and finances. Similarly, it yields, quantitative data which are easy to collect and analyze. The study also used interview guide to obtain answers from and key informant guide.

3.7.2 Collection of Qualitative Data

In this case, data was collected using an interview guide. The interview guide had open-ended questions to enable the researcher to collect qualitative data. The interview guide was administered to the OCPD and the In Charge Training Personnel at Vigilant house through face interviews to allow for further probing. Secondary data was also obtained by reading relevant literature which elaborates on the issue being studied to add to the data collected using the interviews and to clarify issues related to the problem.

3.8 Ethical Considerations

According to Kerridge, Lowe and McPhee (2005), ethics involves making a judgment about right and wrong behavior. Ethics as noted by Minja (2009) is referred to, as norms governing human conduct which have a significant impact on human welfare. Indeed as observed by Devettere (2000), ethics is about choice between good and bad. In this study, confidentiality was of concern as the information relevant to the study was of strategic importance. In this regard, the names of the respondents were not disclosed. In addition, where a response was attributed to specific individuals the said information was maintained in strict confidence.

3.9 Data Analysis

Mugenda and Mugenda (2003) assert that data obtained from the field in raw form is difficult to interpret unless it is cleaned, coded and analyzed. The collected data was analyzed using both quantitative and qualitative data analysis methods. Quantitative method involves descriptive analysis. Descriptive analysis such as frequencies, percentages were used to present quantitative data in form of tables and graphs. Data from questionnaire was coded and logged in the computer using Statistical Package for Social Science (SPSS V 21.0). This involves coding both open and closed ended items in order to run simple descriptive analyses to get reports on data status. Descriptive statistics involved the use of absolute and relative (percentages) frequencies, measures of central tendency and dispersion (mean and standard deviation respectively). Frequency tables was also used to present the data for easy comparison. Content analysis was employed for

the qualitative data and then presented in prose. The study also conducted a regression analysis to establish the relationship between the variables.

Qualitative Data collected was analyzed using content analysis. According to Creswell (2003), content analysis is a research technique used to determine the presence of certain words or concepts within texts or sets of texts. The researcher quantifies and analyzes the presence, meanings and relationships of such words and concepts then make inferences about the messages within the text. To conduct a content analysis on any such text, the text was coded or broken down, into manageable categories on a variety of levels; word, word sense, phrase, sentence, or theme and then examined using content analysis.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter discusses the interpretation and presentation of the findings. This chapter presents analysis of the data on the effectiveness of police officers in disaster scene management in Nairobi central business district: a case of Central police Division police officers in Nairobi's CBD. The chapter also provides the major findings and results of the study.

4.1.1 Response Rate

The study targeted a sample size of 171 respondents from which 150 filled in and returned the questionnaires making a response rate of 87.7%. This response rate was good and representative and conforms to Mugenda and Mugenda (1999) stipulation that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent.

4.2 Demographic Characteristics

The researcher sought to establish the background information of the respondents including respondents' gender, age bracket and highest level of education. The results were as shown below.

4.2.1 Gender of the respondents

The study sought to establish the gender of the respondents. The results were as shown below.

Table 4. 1: Gender of the respondents

Gender	Frequency	Percentage
Male	130	86.7
Female	20	13.3
Total	150	100

According to the findings tabled above, 86.7% of the respondents indicated that they were male while only 13.3% were female. Clearly, majority of the police officers in all the stations interviewed were male.

4.2.2 Age bracket of the respondents

The study sought to establish the age bracket of the respondents. The results were as shown below.

Table 4.2: Age bracket of the respondents

Age	Frequency	Percentage
21-30 yrs	38	25.3
31-40 yrs	45	30.0
41-50 yrs	31	20.7
Above 50 yrs	36	24.0
Total	150	100.0

From the findings tabled above, 30% of the respondents indicated that they were aged between 31 and 40 years, 25.3% indicated between 21 and 30 years, 24% indicated above 50 years while 20.7% indicated between 41 and 50 years. From these findings we can deduce that most of the police officers were aged between 31 and 40 years.

4.2.3 Highest level of education of the respondents

The study sought to establish the highest level of education of the respondents. The results were as shown below.

Table 4.3: Age bracket of the respondents

Level of education	Frequency	Percentage
Post graduate	31	20.7
Graduate	30	20.0
Diploma	54	36.0
Certificate	35	23.3
Total	150	100.0

According to the table above, 36% of the respondents indicated that their highest level of education was the diploma level, 23.3% indicated it was the certificate level, 20.7% indicated post graduate level while 20% indicated the undergraduate level. From these findings we can deduce that most of the police officers' highest level of education was the diploma level.

4.3 Police Equipment

The study sought to determine the extent to which police officers are adequately equipped to manage disaster scene in Nairobi central business district. The responses obtained were as presented below.

4.3.1 Police equipment in managing disaster scene in Nairobi CBD

The respondents were asked to indicate the extent to which they were equipped to manage disaster scene in Nairobi CBD. Their responses were as shown below.

Table 4.4: Police equipment in managing disaster scene in Nairobi CBD

Rate	Frequency	Percentage
Very low extent	23	15.3
Low extent	21	14.0
Moderate extent	55	36.7
Great extent	33	22.0
Very great extent	18	12.0
Total	150	100.0

According to the findings tabled above, 36.7% of the respondents indicated that they were equipped to manage disaster scene in Nairobi CBD to a moderate extent, 22% indicated to a great extent, 15.2% indicated to a very low extent, 14% indicated to a low extent while 12% to a very great extent. From these findings we can deduce that most of the police officers in the CBD were moderately equipped to manage disaster scene in Nairobi CBD.

4.3.2 Factors in managing disaster scenes in the CBD

The respondents were further requested to indicate the extent to which the following factors were effective in managing disaster scenes in the CBD. Their responses were as shown below.

Table 4.5: Factors in managing disaster scenes in the CBD

Factors	Extent of effectiveness in percentage							
	V.L.E	L.E	M.E	G.E	V.G.E	Total %	N	Mean
Transportation	0.67	8	13.3	33.3	46.7	100	150	4.5373
Communication Equipments	6	6	15.3	28.7	44	100	150	3.9552
Minimal vehicles	7.3	5.3	14.7	28	44.7	100	150	3.9104
Poor servicing of vehicles	7.3	11.3	15.3	23.3	42.7	100	150	4.0597
Inadequate fueling of vehicles	7.3	6	15.3	25.3	46	100	150	3.8674
Poor developed IT infrastructure	5.3	7.3	16.7	28.7	42	100	150	3.8525

KEY: **V.G.E:** Very great extent, **G.E:** great extent, **M.E:** Moderate extent, **L.E:** Low extent

V.L.E: Very low extent

From the findings tabled above, the respondents indicated that transportation affects the management of disaster scenes in the CBD to a very great extent as shown by a mean score of 4.5373. Further, they indicated that poor servicing of vehicles affects the management of disaster scenes in the CBD to a great extent as shown by a mean score of 4.0597. Additionally, the respondents indicated that communication equipment affects the management of disaster scenes in the CBD to a great extent as shown by a mean score of 3.9552. Furthermore, the respondents indicated that minimal vehicles affect the management of disaster scenes in the CBD to a great extent as shown by a mean score of 3.9104. As well, they indicated that inadequate fueling of vehicles affects the management of disaster scenes in the CBD to a great extent as shown by a mean score of

3.8674. Lastly, the respondents indicated that poor developed IT infrastructure affects the management of disaster scenes in the CBD to a great extent as shown by a mean score of 3.8525.

The interviewees were also asked to describe the transport facilities. They indicated that transport facilities are inadequate and cannot transport all police officers to their destination. AS well, they indicated that there are two land cruisers and one lorry.

The interviewees were also asked to indicate the frequency of service. They indicated that it is only when there is a mechanical problem others stating that it is after every 5000 kilometer and others indicating that it is monthly.

On the frequency of fueling, the interviewees gave varied answers which were: 15 litres per day, after three days and others after two days.

4.3.3 Police equipment's effectiveness in disaster scene management

In an open ended question, the respondents were also asked to indicate how police equipment's affect their effectiveness in disaster scene management. They indicated that insufficient equipment leads to poor response and that capacity to handle and control equipment and vehicles are not serviceable. Further, they indicated that equipment available lack the capacity to enable police to visit, handle and draw conclusions on the same instances. They also added that it negatively affects their response. Some indicated that inadequate equipment lead to poor management of disaster scenes which might further lead to more risks during disaster management. To some, it had no effect at all.

4.3.4 Extent agreement with the following statements on police equipment

The respondents were further requested to indicate their extent of agreement with the following statements on police equipment. The results obtained were as shown below.

Table 4.6 Extent of agreement with the following statements on police equipments.

statement	Level of agreement					Total		
	V.L.E	L.E	M.E	G.E	V.G.E	%	N	Mean
Non-availability of specialized equipments hampers police effectiveness in disaster management.	0.95	28.7	15.3	26	29.3	100	150	4.194
The policing needs far outweighs the transport resources at their disposal	6	6	9.3	34.7	44	100	150	4.403
Communication equipments are susceptible to being tapped.	7.3	18.7	14.7	14.7	44.7	100	150	3.537
The communication gadgets are highly limited in number relative to the communication needs of officers	8	9.3	7.3	33.3	42	100	150	4.572
Inadequacy of data collection, analysis and storage of information contributes to poor planning lack of institutional memory and improvement towards disaster management	0.67	26	22.7	24	26.7	100	150	4.024

KEY: V.G.E: Very great extent, G.E: great extent, M.E: Moderate extent, L.E: Low extent

V.L.E: Very low extent

According to the findings tabled above, the respondents agreed that communication gadgets are highly limited in number relative to the communication needs of officers to a very great extent as shown by a mean score of 4.5729. Further, they agreed that policing needs far outweigh the transport resources at their disposal to a great extent as shown by a mean score of 4.4030. Additionally, the respondents agreed that non-availability of specialized equipment hampers police effectiveness in disaster management disposal to a great extent as shown by a mean score of 4.1940. As well, the respondents agreed that inadequacy of data collection, analysis and storage of information contributes to poor planning, lack of institutional memory and improvement towards disaster management to a great extent as shown by a mean score of 4.0242. Lastly, the respondents agreed that communication equipment are susceptible to being tapped to a great extent as shown by a mean score of 3.5373.

On efficiency of communication equipment, the interviewees indicated it was very efficient, and others indicated adequate but only cover minimal offices. Others indicated it was not very effective while other stated it was to a moderate extent.

4.4 Human Resource Capacity

The study further sought to assess the effect of human resource capacity on disaster scene management by police officers in Nairobi central business district. The results were as shown below.

4.4.1 Effect of human resource capacity on disaster scene management

The respondents were further asked to indicate the extent to which human resource capacity affect police effectiveness in disaster scene management within Nairobi CBD. Their responses were as shown below.

Table 4.6: Effect of human resource capacity on disaster scene management

Rate	Frequency	Percentage
Very low extent	23	15.3
Low extent	22	14.7
Moderate extent	32	21.3
Great extent	56	37.3
Very great extent	17	11.3
Total	150	100

According to the findings tabled above, 37.3% of the respondents indicated that human resource capacity affects police effectiveness in disaster scene management within Nairobi CBD to a great extent, 21.3% indicated to a moderate extent, 15.3% indicated to a very low extent, 14.7% indicated to a low extent while 11.3% to a very great extent. From these findings we can deduce that human resource capacity affects police effectiveness in disaster scene management within Nairobi CBD to a great extent.

4.4.2 Aspects of human resource capacity

The respondents were additionally requested to indicate the extent to which the following aspects of human resource capacity affect disaster scene management within Nairobi CBD. The results were as shown below.

Table 4.7: Aspects of human resource capacity

Statement	Level of agreement					Total		
	V.L.E	L.E	M.E	G.E	V.G.E	%	N	Mean
Administrative process	0.67	25.3	12.7	25.3	36	100	150	4.6716
Staff capacity/ competence	3.3	2.7	9.3	27.3	57.3	100	150	4.5373
Inadequate pay	7.3	5.3	14.7	28	44.7	100	150	4.4925
Budgetary allocation	1.3	10.7	15.3	23.3	49.3	100	150	4.1926

KEY: V.G.E: Very great extent, G.E: great extent, M.E: Moderate extent, L.E: Low extent

V.L.E: Very low extent

According to the findings tabled above, the respondents indicated that administrative process affects disaster scene management within Nairobi CBD to a very great extent as shown by a mean score of 4.6716. As well, the respondents indicated that staff capacity/ competence affects disaster scene management within Nairobi CBD to a very great extent as shown by a mean score of 4.5373. Further, the respondents indicated that inadequate pay affects disaster scene management within Nairobi CBD to a great extent as shown by a mean score of 4.4925. Lastly, the respondents indicated that budgetary allocation affects disaster scene management within Nairobi CBD to a great extent as shown by a mean score of 4.1926.

The interviewees indicated that the communication service was very slow response and made it hard mobilization and coordination. They also indicated that road conditions, especially traffic jam slows down police response.

The interviewees were also asked to indicate their opinions regarding how effective is the administrative process in matters pertaining disaster scene management. They indicated that it was effective to moderate extent while others indicated that it negatively affects police response. Further, they added that the chain of command leads to giving wrong information as opposed to the real situation. They also indicated that the administrative process made it slow to make decisions, that the process is so lengthy and tiresome, and also that poor administrative skills and lack of knowledge led to reduced effectiveness. They also indicated lack of knowledge and new technology to operate the equipment and also the availability of equipment are not reliable.

On how to improve the effectiveness of the police in disaster scene management, the interviewees indicated regular training on disaster management, preparedness on disaster management, proper evaluation of disaster, evaluating the response and recovery effort, increase the number of police through recruitment, encompassing disaster scene management in police training and use of modern equipment and motivation.

On the effect of human resource capacity on police effectiveness, the interviewees indicated Police officers work under threat fearing to be investigated, few human resource manpower to handle disaster scene management, long working hours by junior police officers which lowers their morale in disaster scene management, less funds allocate to curb disaster scene management and also that lack of motivation causes laxity during disaster scene management.

The interviewees were further requested to indicate how staff competence affects police officers effectiveness in disaster scene management within the CBD. They indicated delayed response and overworking of officers resulting to lower working morale. They also added that the officers take a long time to respond to disaster scenes and that there is no staff competence. Further, it was indicated that there was no cooperation among the staff and police officers and that there was inability acquiring necessary skills and equipment. They also added that most officers are not trained on disaster management which leads to poor response during disaster scene management and that police are poorly trained to deal with disaster management also adding that inadequate skilled staff managers in disaster scene management was a major cause of the ineffectiveness.

On the effects of understaffing, the interviewees indicated that it led to delayed response and overworking of officers resulting to lower working morale.

The interviewees were also asked to indicate their opinions regarding how human resource capacity affects police officers effectiveness in disaster scene management within Nairobi CBD. They indicated helps in assisting in evaluation while other felt that it was not very effective and others indicated to a moderate extent.

4.4.3 Extent of agreement with statements on human resource capacity

The respondents were also asked to indicate their level agreement with the following statements on human resource capacity. The responses were as shown below.

Table 4.8: Extent of agreement with statements on human resource capacity**Response in percentage**

Statement	Level of agreement					Total		
	V.L.E	L.E	M.E	G.E	V.G.E	%	N	Mean
The amount of money made available for disaster management is far less than the realistic amount actually needed to manage successfully	0.67	17.3	15.3	26.7	40	100	150	4.7164
The police have inadequate skills of handling disasters	1.3	10.7	15.3	23.3	49.3	100	150	4.5373
The Kenyan police are under staffed and therefore not able to handle disaster management properly	7.3	6	15.3	25.3	46	100	150	4.5821
The active number of police officers engaged in crime prevention, disaster scene management and real public service is very low	5.3	7.3	16.7	28.7	42	100	150	4.5522
Natural attrition, physical injury resignation for greener pastures and dismissal on disciplinary grounds contribute to reduced capacity of the police.	7.3	5.3	14.7	28	44.7	100	150	4.1194
The lengthy administrative process hamper disaster management efforts	1.3	10.7	15.3	23.3	49.3	100	150	3.7561
Lack of training in disaster management affects the handling of disaster scenes	7.3	5.3	14.7	28	44.7	100	150	3.9752

From the results shown above, the respondents agreed that the amount of money made available for the disaster management is far less than the realistic amount actually needed to manage successfully to a very great extent as shown by a mean score of 4.7164. Further, the respondents agreed that the police have inadequate technical handling of

disaster management to a very great extent as shown by a mean score of 4.5373. Additionally, the respondents agreed that the active number of police officers engaged in crime prevention, disaster scene management and real public service is very low to a very great extent as shown by a mean score of 4.5522. Furthermore, the respondents agreed that natural attrition, physical injury, resignation for greener pastures elsewhere and dismissal on disciplinary grounds contribute to reduced capacity of the police to a great extent as shown by a mean score of 4.1194. Also, the respondents agreed that lack of relevant training in disaster management affect the handling of disaster scenes to a great extent as shown by a mean score of 3.9752. Lastly, the respondents agreed that the lengthy administrative process hamper disaster management efforts to a great extent as shown by a mean score of 3.7561.

4.5 Terms and Conditions of Service

The study further sought to show how terms and conditions of service of police officers affect disaster scene management in Nairobi central business district. The results obtained were as shown below.

The interviewees were asked to describe the terms and conditions of service in the police force. They described it as outdated and so discriminative to the junior officers, lack in capacity and ability in relation to new constitution, very poor in terms of pay and police welfare and not user friendly. Some also added that the terms and conditions of service were not friendly to development of police officers in terms of disaster scene management.

4.5.1 Effect of terms and conditions of Service in the police force on disaster scene management

The respondents were further asked to indicate the extent to which terms and conditions of Service in the police force affect police effectiveness in disaster scene management within Nairobi CBD. Their responses were as shown below.

Table 4.9: Effect of terms and conditions of Service in the police force on disaster scene management

Rate	Frequency	Percentage
Very low extent	26	17.3
Low extent	20	13.3
Moderate extent	32	21.3
Great extent	63	42.0
Very great extent	10	6.7
Total	150	100.0

According to the findings tabled above, 42% of the respondents indicated that terms and conditions of Service in the police force affect police effectiveness in disaster scene management within Nairobi CBD to a great extent, 21.3% indicated to a moderate extent, 17.3% indicated to a very low extent, 13.3% indicated to a low extent while 6.7% to a very great extent. From these findings we can infer that terms and conditions of Service in the police force affect police effectiveness in disaster scene management within Nairobi CBD to a great extent.

4.5.2 Level of agreement with aspects on terms and conditions

The respondents were also asked to indicate their level of agreement with the following aspects on terms and conditions. Their responses were as shown below.

Table 4.10: Level of agreement with aspects on terms and conditions

Aspects on terms and conditions	Level of agreement					Total		
	V.L.E	L.E	M.E	G.E	V.G.E	%	N	Mean
Compensation for services	0.67	11.3	15.3	28.7	44	100	150	4.4908
Health insurance	3.3	2.7	13.3	36.7	44	100	150	3.8718
Working hours	7.3	5.3	14.7	34.7	38	100	150	4.1941

From the findings tabled above, the respondents agreed with compensation for services as a term and condition to a great extent as shown by a mean score of 4.4908. Further, the respondents agreed with working hours services as a term and condition to a great extent as shown by a mean score of 4.1941. Additionally, the respondents agreed with health insurance as a term and condition to a great extent as shown by a mean score of 3.8718. Lastly, the respondents agreed with officer safety as a term and condition to a great extent as shown by a mean score of 3.7363.

4.5.3 Level of agreement with statements on terms and conditions of service

The respondents were also asked to indicate the extent to which they agree with the following statements on terms and conditions of service. Their responses were as shown below.

Table 4.11: Level of agreement with statements on terms and conditions of service

Statement	Level of agreement					Total		
	V.L.E	L.E	M.E	G.E	V.G.E	%	N	Mean
Police officers are not adequately compensated for their services	0.67	17.3	13.3	28.7	40	100	150	4.6866
Housing challenges for junior officers demoralizes them in disaster management	3.3	2.7	6.7	37.3	50	100	150	4.6418
Lack of health insurance hampers their efforts in disaster management	0.67	5.3	14.7	34.7	44.7	100	150	4.5166
Longer working hours hamper disaster management efforts.	7.3	6	15.3	25.3	46	100	150	3.9254
Poor conditions of service in operational and logistic facilities hamper disaster management efforts	0.67	32.7	15.3	28.7	44	100	150	4.3295

KEY: V.G.E: Very great extent, G.E: great extent, M.E: Moderate extent, L.E: Low extent

V.L.E: Very low extent

According to the findings shown above, the respondents agreed that police officers are not adequately compensated for their services to a very great extent as shown by a mean score of 4.6866. Further, they agreed that housing challenge for junior officers demoralizes them in disaster management to a very great extent as shown by a mean score of 4.6418. Additionally, the respondents agreed that lack of health insurance

hampers their effort in disaster management to a very great extent as shown by a mean score of 4.5166. Furthermore, the respondents agreed that poor conditions of service in operational and logistical facilities hamper disaster management efforts to a great extent as shown by a mean score of 4.3295. Lastly, the respondents agreed that longer working hours hamper disaster management efforts to a great extent as shown by a mean score of 3.9254.

4.6 Forms of Community Support

The study lastly sought to identify the forms of community support/ resources that enhance the capacity of police effectiveness to manage disaster scenes in Nairobi central business district. The findings were as shown below.

4.6.1 Effect of forms of community support on police effectiveness

The respondents were asked to indicate the extent to which the forms of community support affect the police effectiveness in disaster scene management within Nairobi CBD. Their responses were as shown below.

Table 4.12: Effect of forms of community support on police effectiveness

Rate	Frequency	Percentage
Very low extent	21	14.0
Low extent	20	13.3
Moderate extent	26	17.3
Great extent	51	34.0
Very great extent	32	21.3
Total	150	100.0

According to the findings tabled above, 34% of the respondents indicated that the forms of community support affect the police effectiveness in disaster scene management within Nairobi CBD to a great extent, 21.3% indicated to a very great extent, 17.3% indicated to a moderate extent, 14% indicated to a very low extent while 13.3% to a low extent. From these findings we can deduce that the forms of community support affect

the police effectiveness in disaster scene management within Nairobi CBD to a great extent.

4.6.2 Level of agreement with terms about forms of community support

The respondents were further requested to indicate their level agreement with the following terms about forms of community support. The results obtained were as shown below.

Table 4.13: Level of agreement with terms about forms of community support

Level of agreement in percentage

Forms of community support	Level of agreement					Total		
	V.L.E	L.E	M.E	G.E	V.G.E	%	N	Mean
Community participation	0.67	7.3	15.3	32.7	44	100	150	4.7716
Volunteer management organizations	3.3	2.7	6.7	37.3	50	100	150	4.5473

KEY: V.G.E: Very great extent, G.E: great extent, M.E: Moderate extent, L.E: Low extent

V.L.E: Very low extent

According to the table above, the respondents agreed that community participation is a form of community support to a very great extent as shown by a mean score of 4.7716. As well, the respondents indicated that volunteer management organizations are form of community support to a very great extent as shown by a mean score of 4.5473.

4.6.3 Community support on police force in disaster scene management

The respondents were further requested to indicate their opinion on how the community supports the police force in disaster scene management within the CBD. They indicated that they provide useful information to the police which is useful during disaster scene management and that they assist in evacuating the victims. Some indicated that most do not cooperate due to security safety

On community involvement in disaster management, the interviewees indicated provision of transport, provision of clothes, provision of food, blood donation and removal of breakages.

On how to involve the community in disaster management, the interviewees indicated that it can be done on matters of evacuation and securing the scene, passing information to the relevant people and authority and local initiatives and participatory programs.

4.6.4 Agreement with statements about forms of community support

The respondents were further requested to indicate their level agreement with the following statements about forms of community support. The results obtained were as shown below.

Table 4.14: Agreement with statements about forms of community support**Levels of agreement in percentage**

Statements	Level of agreement					Total		
	V.L.E	L.E	M.E	G.E	V.G.E	%	N	Mean
Local initiatives and participatory approaches in disaster risk management have gained popularity in the country	0.67	13.3	13.3	32.7	40	100	150	4.6908
Linkages on disaster management capabilities between local communities on the one hand, district and national have remained weak in Kenya	3.3	24	13.3	9.3	50	100	150	3.6718
The general degradation of traditional African socialism and livelihood system has resulted in the progressive erosion of the traditional coping strategies	0.67	5.3	14.7	34.7	44.7	100	150	4.0941
The Kenyan community has not been sufficiently sensitized on disaster management	3.3	3.3	15.3	25.3	52.7	100	150	4.7363
Police service often view community participation simply as a matter of training emergency response volunteers and ignore initiatives developed by community based	7.3	6	15.3	25.3	46	100	150	3.8324

From the findings tabled above, the respondents agreed that the Kenyan community has not been sufficiently sensitized on disaster management to a very great extent as shown by a mean score of 4.7363. Further they agreed that local initiatives and participatory approaches in disaster risk management have gained popularity in the country to a very great extent as shown by a mean score of 4.6908. Additionally, the respondents agreed that the general degradation of traditional African socialism and livelihood systems has resulted in the progressive erosion of the traditional coping strategies country to a great extent as shown by a mean score of 4.0941. Moreover, the respondents agreed that police force often view community participation simply as a matter of training emergency response volunteers and ignore initiatives developed by community based to a great extent as shown by a mean score of 3.8324. As well, the respondents agreed that linkages on disaster management capabilities between local communities, on the one hand, district and national have remained weak in Kenya to a great extent as shown by a mean score of 3.6718.

4.7 Disaster Scene Management

The study sought to establish the effectiveness of police officers in disaster scene management in Nairobi central business district: a case of Central police Division police officers in Nairobi's CBD. The following results were obtained.

4.7.1 Aspects of disaster scene management in the CBD

The respondents were lastly asked to indicate how effective has the police been involved in the following aspects of disaster scene management in the CBD. The table below shows the findings obtained.

Table 4.15: Aspects of disaster scene management in the CBD

Aspects	Level of agreement					Total		
	V.L.E	L.E	M.E	G.E	V.G.E	%	N	Mean
Saving and protecting human life	0.67	14.7	14.7	26.7	43.3	100	150	4.1940
Relieving suffering	3.3	24	13.3	9.3	50	100	150	4.4030
Containing the emergency	0.6	5.3	14.7	34.7	44.7	100	150	4.5642
Providing the public and businesses with warnings, advice and information	3.3	3.3	15.3	25.3	52.7	100	150	4.4245
Protecting the health and safety of responders	7.3	6	15.3	25.3	46	100	150	3.8573
Safeguarding the environment	5.3	7.3	16.7	28.7	42	100	150	3.5373
As far as practicable, protecting property	0.67	32.7	15.3	28.7	44	100	150	4.3424
Maintaining or restoring critical activities	3.3	24	13.3	9.3	50	100	150	3.7562
Maintaining normal services at an good level	0.6	5.3	14.7	34.7	44.7	100	150	3.8634
Promoting and facilitating self-help in affected communities	3.3	3.3	15.3	25.3	52.7	100	150	3.7252
Facilitating investigations and inquiries	7.3	6	15.3	25.3	46	100	150	4.0822
Facilitating the recovery of the community.	5.3	7.3	16.7	28.7	42	100	150	4.0252
Evaluating the response and recovery effort	0.6	32.7	15.3	28.7	44	100	150	3.5824
Identifying and taking action to implement lessons identified	3.3	24	13.3	9.3	50	100	150	3.6532

From the findings tabled above, the respondents indicated that the police been effective in containing the emergency – limiting its escalation or spread and mitigating its impacts to a very great extent as shown by a mean score of 4.5642. Further, the respondents indicated that the police been effective in providing the public and businesses with warnings, advice and information to a great extent as shown by a mean score of 4.4245. Further, the respondents indicated that the police been effective in relieving suffering to a great extent as shown by a mean score of 4.4030. As well, the respondents indicated that the police been effective in as far as reasonably practicable, protecting property to a great extent as shown by a mean score of 4.3424. Additionally, the respondents indicated that the police been effective in saving and protecting human life to a great extent as shown by a mean score of 4.1940. Also, the respondents indicated that the police been effective in facilitating investigations and inquiries (e.g. by preserving the scene and effective records management) to a great extent as shown by a mean score of 4.0822. In addition, the respondents indicated that the police been effective in facilitating the recovery of the community (including the humanitarian assistance, economic, infrastructure and environmental impacts) to a great extent as shown by a mean score of 4.0252. As well, the respondents indicated that the police been effective in maintaining normal services at an appropriate level to a great extent as shown by a mean score of 3.8634. Furthermore, the respondents indicated that the police been effective in protecting the health and safety of responding personnel to a great extent as shown by a mean score of 3.8573. Additionally, the respondents indicated that the police been effective in maintaining or restoring critical activities to a great extent as shown by a mean score of 3.7562. Furthermore, the respondents indicated that the police been effective in promoting and facilitating self-help in affected communities to a great extent as shown by a mean score of 3.7252. As well, the respondents indicated that the police been effective in identifying and taking action to implement lessons identified to a great extent as shown by a mean score of 3.6532. Moreover, the respondents indicated that the police been effective in evaluating the response and recovery effort to a great extent as shown by a mean score of 3.5824. Lastly, the respondents indicated that the police been effective in safeguarding the environment to a great extent as shown by a mean score of 3.5373.

4.8 Regression Analysis

In this study, a multiple regression analysis was conducted to test the influence among predictor variables. The research used statistical package for social sciences (SPSS V 21.0) to code, enter and compute the measurements of the multiple regressions

Table 4.16: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.809	0.654	0.642	0.182

R-Squared is a commonly used statistic to evaluate model fit. R-square is 1 minus the ratio of residual variability. The adjusted R^2 , also called the coefficient of multiple determinations, is the percent of the variance in the dependent explained uniquely or jointly by the independent variables. 64.2% of the changes in the police officers effectiveness in disaster scene management could be attributed to the combined effect of the predictor variables.

Table 4.17: Summary of One-Way ANOVA results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.223	5	1.845	54.475	0.0159
	Residual	4.876	144	0.034		
	Total	14.099	149			

The probability value of 0.0159 indicates that the regression relationship was highly significant in predicting how human resource capacity deficits, transport deficiency, poor terms and conditions of services, community support and infrastructure/susceptible communication system influenced police officers effectiveness in disaster scene management. The F calculated at 5% level of significance was 54.475 since F calculated is greater than the F critical (value = 2.5252), this shows that the overall model was significant.

Table 4.18: Regression coefficients of the relationship between police officers effectiveness in disaster scene management and the five predictive variables

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	1.053	0.217			2.889	5.31E-03
Human resource capacity deficits	0.682	0.149	0.613		5.309	1.58E-06
Transport deficiency	0.701	0.181	0.149		3.210	2.10E-03
Poor terms and conditions of services	0.599	0.196	0.234		4.255	7.19E-05
Community support	0.763	0.091	0.138		3.989	1.78E-04
Infrastructure/susceptible communication system	0.718	0.104	0.142		4.031	1.39E-03

As per the SPSS generated table above, the equation ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$) becomes:

$$Y = 1.053 + 0.682X_1 + 0.701X_2 + 0.599X_3 + 0.763X_4 + 0.718X_5$$

The regression equation above has established that taking all factors into account (human resource capacity deficits, transport deficiency, poor terms and conditions of services, community support and infrastructure/susceptible communication system) constant at zero police officers effectiveness in disaster scene management will be 1.053. The findings presented also show that taking all other independent variables at zero, a unit increase in the human resource capacity deficits would lead to a 0.682 change in the scores of police officers effectiveness in disaster scene management and a unit increase in the scores of transport deficiency would lead to a 0.701 change in the scores of police officers effectiveness in disaster scene management. Further, the findings shows that a unit increases in the scores of poor terms and conditions of services would lead to a 0.599 change in the scores of co police officers effectiveness in disaster scene management. The study also found that a unit increase in the scores of community support would lead

to a 0.763 change in the scores of police officers effectiveness in disaster scene management while a unit increase in the scores of infrastructure/susceptible communication system would lead to a 0.718 change in the scores of police officers effectiveness in disaster scene management.

Overall, community support had the greatest effect on the police officers effectiveness in disaster scene management, followed by infrastructure/susceptible communication system and transport deficiency, then human resource capacity deficits while level of poor terms and conditions of services had the least effect to the police officers effectiveness in disaster scene management. All the variables were significant ($p < 0.05$).

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presented the discussion of key data findings, conclusion drawn from the findings highlighted and recommendation made there-to. The conclusions and recommendations drawn were focused on addressing the objective of the study.

5.2 Summary of Findings

The study sought to establish the effectiveness of police officers in disaster scene management in Nairobi central business district: a case of Central police Division police officers in Nairobi's CBD.

5.2.1 Police Equipment

Regarding police equipment, the study established that most of the police officers in the CBD were moderately equipped to manage disaster scene in Nairobi CBD. Also, the study established that transportation, poor servicing of vehicles, communication equipment, minimal vehicles, inadequate fueling of vehicles affects and poor developed IT infrastructure affects the management of disaster scenes in the CBD to a great extent. Further, the study established that communication gadgets are highly limited in number relative to the communication needs of officers and that policing needs far outweigh the transport resources at their disposal. It was also found that non-availability of specialized equipment hampers police effectiveness in disaster management disposal; inadequacy of data collection, analysis and storage of information contributes to poor planning, lack of institutional memory and improvement towards disaster management and that communication equipment are susceptible to being tapped.

5.2.2 Human Resource Capacity

The study established that human resource capacity affects police effectiveness in disaster scene management within Nairobi CBD to a great extent. The study also found that administrative process affects disaster scene management within Nairobi CBD and

that staff capacity/ competence affects disaster scene management within Nairobi CBD to a very great extent. The study also established that inadequate pay affects disaster scene management within Nairobi CBD and that budgetary allocation affects disaster scene management within Nairobi CBD to a great extent as well.

It was also established that the amount of money made available for the disaster management is far less than the realistic amount actually needed to manage successfully; the police have inadequate technical handling of disaster management; that the active number of police officers engaged in crime prevention and also disaster scene management and real public service is very low to a very great extent. The study also established that that natural attrition, physical injury, resignation for greener pastures elsewhere and dismissal on disciplinary grounds contribute to reduced capacity of the police and also that the lack of relevant training in disaster management affect the handling of disaster scenes.

5.2.3 Terms and Conditions of Service

With regard to terms and conditions, the study found that terms and conditions of Service in the police force affect police effectiveness in disaster scene management within Nairobi CBD to a great extent. The study also found that compensation, working hour, health insurance and officer safety are terms and conditions of Service in the police force. The study also found that police officers are not adequately compensated for their services, housing challenge for junior officers demoralizes them in disaster management, lack of health insurance hampers their effort in disaster management, poor conditions of service in operational and logistical facilities hamper disaster management efforts and that longer working hours hamper disaster management efforts.

5.2.4 Forms of Community Support

The study established that the forms of community support affect the police effectiveness in disaster scene management within Nairobi CBD to a great extent. The study also found that that community participation is a form of community support and that volunteer management organizations are form of community support to a very great extent. The

study found that the Kenyan community has not been sufficiently sensitized on disaster management and that local initiatives and participatory approaches in disaster risk management have gained popularity in the country to a very great extent. The study further found that the general degradation of traditional African socialism and livelihood systems has resulted in the progressive erosion of the traditional coping strategies country and that police force often view community participation simply as a matter of training emergency response volunteers and ignore initiatives developed by community based to a great extent. Also, the study found out that that linkages on disaster management capabilities between local communities, on the one hand, district and national have remained weak in Kenya to a great extent.

5.2.5 Disaster Scene Management

With regard to disaster scene management, the study made a number of findings. It was established that the police been effective in providing the public and businesses with warnings, advice and information; the police been effective in relieving suffering; the police been effective in as far as reasonably practicable, protecting property; the police been effective in saving and protecting human life; the police been effective in facilitating investigations and inquiries (e.g. by preserving the scene and effective records management); the police been effective in facilitating the recovery of the community (including the humanitarian assistance, economic, infrastructure and environmental impacts); the police been effective in maintaining normal services at an appropriate level; the police been effective in protecting the health and safety of responding personnel; the police been effective in maintaining or restoring critical activities; the police been effective in promoting and facilitating self-help in affected communities; the respondents indicated that the police been effective in identifying and taking action to implement lessons identified; the police been effective in evaluating the response and recovery effort and that the police been effective in safeguarding the environment to a great extent.

5.3 Conclusion

Based on the findings, the study concludes that most of the police officers effectiveness in disaster scene management within Nairobi CBD is affected by the number and quality of equipments at their disposal, the human resource capacity and the provided terms and conditions of service by their employer. In terms of quality and equipments, the study concludes that police officers in Nairobi CBD are poorly equipped. Their numbers are also inadequate to meet their need in responding and managing disaster scenes within the CBD. Finally the terms and conditions of service were also found to be uncondusive for service.

5.4 Recommendations

Based on the findings and conclusion of the study it is recommended that the County government in charge of the CBD to make haste and purchase all the necessary equipment that the officers need. Security of the CBD should be a priority even for the national government as it is the impression of the entire country.

The study also recommended that the Police service should procure basic but diverse safety equipment, have as minimal as possible administrative hindrance to rescue services, have substantial resource allocation for disaster management activities and institute disaster management department within the police force.

The government should also recruit more police officers to meet the UN standards and improve public police relations to ensure free flow of quality information. The officers interviewed described service in the police force as outdated and so discriminative to the junior officers. This is a demotivating factor that should be addressed.

The study recommends that the police service engages in an internal survey that will seek to get the opinions of the officers which should be put into consideration and changes effected. Finally this study therefore recommends that the government engage in extensive sensitization activities on the community members so that they know the role they would play in disaster scene management.

5.5 Suggestion for Further Studies

Following this study, the following topics were suggested as areas for further research;

- A study should be done to investigate the effectiveness of police officers in crime management in Nairobi central business district.
- A similar study should also be done on the factors affecting police officers effectiveness in disaster scene management in other major towns such as Mombasa, Kisumu and Nakuru.
- Further studies should be done on the effectiveness of other disaster responders in disaster scene management in Nairobi CBD.

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APPENDICES

Appendix I: Research Questionnaire for police officers

Kindly answer the following questions by writing a brief answer or ticking in the boxes provided.

PART A: BAKGROUND INFORMATION

1) Which station do you belong to?

2) What is your gender?

a. male b. female

3) In which of the following age brackets do you belong?

a. 21-30 years b. 31-40 years c. 41-50 years
d. Above 50 years

4) Which is your highest level of education?

- i. Post Graduate
- ii. Undergraduate
- iii. Diploma
- iv. Certificate
- v. Any other (specify).....

5) For how many years have you been working in the police force?years

PART B: Police Equipments

6) To what extent are police officers adequately equipped to manage disaster scene in Nairobi CBD?

a. very low extent c. Moderate extent e. very great extent
b. Low extent d. great extent

7) To what extent do the following factors effective in managing disaster scenes in the CBD?

Factors	Very low extent	Low extent	Moderate extent	Great extent	Very great extent
Transportation					
Communication Equipments					
Minimal vehicles					
Poor servicing of vehicles					
Inadequate fueling of vehicles					
Poor developed IT infrastructure					

8) In your opinion, how does police equipment affect their effectiveness in disaster scene management within Nairobi CBD?

.....

9) To what extent do you agree with the following statements on police equipments?

Statements	Very low extent	Low extent	Moderate extent	Great extent	Very great extent
Non-availability of specialized equipment hampers police effectiveness in disaster management					
The policing needs far outweigh the transport resources at their disposal					
communication equipments are susceptible to being tapped					
The communication gadgets are highly limited in number relative to the communication needs of officers.					
Inadequacy of data collection, analysis and storage of information contributes to poor planning, lack of institutional memory and improvement towards disaster management					
Lack of effective monitoring and evaluation of disaster risk trend analysis and forecasts hampers the police effectiveness in disaster scene management					

PART C: Human Resource Capacity

10) To what extent does human resource capacity affect police effectiveness in disaster scene management within Nairobi CBD?

- a. Very great extent b. Moderate extent Very low extent
 d. Great extent e. Low extent

11) To what extent do the following aspects of human resource capacity affect disaster scene management within Nairobi CBD?

Statements of human resource capacity	Extent				
	Very low extent	Low extent	Moderate extent	Great extent	Very great extent
Administrative process					
Staff capacity/competence					
Inadequate pay					
Budgetary allocation					

12) In your opinion, how effective is the administrative process in matters pertaining disaster scene management?

.....

13) How does staff competence affect police officers effectiveness in disaster scene management within the CBD?

.....

14) In your opinion, how does human resource capacity affect police officers effectiveness in disaster scene management within Nairobi CBD?

.....

15) To what extent do you agree with the following statements on human resource capacity?

Statements of human resource capacity	Very low extent	Low extent	Moderate extent	Great extent	Very great extent
The amount of money made available for the disaster management is far less than the realistic amount actually needed to manage successfully					
The police have inadequate technical handling of disaster management					
The Kenyan police are understaffed and therefore not able to handle disaster management properly					
The active number of police officers engaged in crime prevention, disaster scene management and real public service is very low					
Natural attrition, physical injury, resignation for greener pastures elsewhere and dismissal on disciplinary grounds contribute to reduced capacity of the police					
The lengthy administrative process hamper disaster management efforts					
Lack of relevant training in disaster management affect the handling of disaster scenes					

PART D: Terms and Conditions of Service

16) How can you describe the terms and conditions of service in the police force?

.....

17) To what extent do terms and conditions of Service in the police force affect effectiveness in disaster scene management?

- a. Very great extent b. Moderate extent c. Very low extent
 d. Great extent e. Low extent

18) What is your level of agreement with the following aspects on terms and conditions?

Aspects on terms and conditions	Very low extent	Low extent	Moderate extent	Great extent	Very great extent
Compensation for services					
Health insurance					
Working hours					
Officer safety					

19) To what extent do you agree with the following statements on terms and conditions of service?

Statements on terms and conditions of service	Very low extent	Low extent	Moderate extent	Great extent	Very great extent
Police officers are not adequately compensated for their services					
Housing challenge for junior officers demoralizes them in disaster management					
Lack of health insurance hampers their effort in disaster management					
Longer working hours hamper disaster management efforts					
Poor conditions of service in operational and logistical facilities hamper disaster management efforts					

PART E: Forms of Community Support

20) To what extent do the forms of community support affect the police effectiveness in disaster scene management within Nairobi CBD?

- a. Very great extent b. Moderate extent c. Very low extent
 d. Great extent e. Low extent

21) What is your level of agreement with the following terms about forms of community support?

	Level of Agreement				
Indicator	Very low extent	Low extent	Moderate extent	Great extent	Very great extent
Community participation					
Volunteer management organizations					

22) In your opinion how does the community support the police force in disaster scene management within the CBD?

.....

23) What is your level of agreement with the following statements about forms of community support?

Statements about forms of community support	Very low extent	Low extent	Moderate extent	Great extent	Very great extent
Local initiatives and participatory approaches in disaster risk management have gained popularity in the country					
linkages on disaster management capabilities between local communities, on the one hand, district and national have remained weak in Kenya					
The general degradation of traditional African socialism and livelihood systems has resulted in the progressive erosion of the traditional coping strategies					
The Kenyan community has not been sufficiently sensitized on disaster management					
Police force often view community participation simply as a matter of training emergency response volunteers and ignore initiatives developed by community based					

PART F: Disaster Scene Management

24) In your view, how effective has the police been involved in the following aspects of disaster scene management in the CBD?

Aspects of disaster scene management	Ineffective	Slightly effective	Moderately effective	Effective	Very effective
Saving and protecting human life					
Relieving suffering					
Containing the emergency – limiting its escalation or spread and mitigating its impacts					
Providing the public and businesses with warnings, advice and information					
Protecting the health and safety of responding personnel					
Safeguarding the environment					
As far as reasonably practicable, protecting property					
Maintaining or restoring critical activities					
Maintaining normal services at an appropriate level					
Promoting and facilitating self-help in affected communities					

Facilitating investigations and inquiries (e.g. by preserving the scene and effective records management)					
Facilitating the recovery of the community (including the humanitarian assistance, economic, infrastructure and environmental impacts)					
Evaluating the response and recovery effort					
Identifying and taking action to implement lessons identified					

THANK YOU

APPENDIX II: Key Informant Interview Guide

This interview guide is designed to collect data from the police force within Nairobi Central Business District on factors affecting police officers effectiveness in disaster scene management. The data shall be used for academic purposes only and will be treated with strict confidence.

The following sections provides sample questions to be used carrying out the interview.

PART 1: RESPONDENT'S BACKGROUND REVIEW

1. What position do you hold in the Police force?
2. What's the highest level of education you have attained?
3. How long have you worked in the Police force?
4. In which station do you work?

PART 2: EXTENT TO WHICH POLICE OFFICERS ARE ADEQUATELY EQUIPPED TO MANAGE DISASTER SCENE IN NAIROBI CENTRAL BUSINESS DISTRICT

5. How is your station equipped with transport facilities?
6. How often are these transport equipments serviced?
7. In terms of transportation, how are your vehicles fuelled?
8. Do you receive regular training on disaster scene management; if so how often do you receiving the training?
9. How efficient are your communication equipments?
10. How do your communication equipments affect your effectiveness in disaster scene management?
11. How does the condition of roads affect police effectiveness in disaster scene management within the Central Business District (CBD)?

PART 3: EFFECT OF HUMAN RESOURCE CAPACITY ON DISASTER SCENE MANAGEMENT BY POLICE OFFICERS.

12. In which way does administrative process affect police effectiveness in disaster scene management within the CBD?
13. What are the effects of under staffing in police effectiveness in disaster scene management within the CBD?

PART 4: FORMS OF COMMUNITY SUPPORT THAT ENHANCE THE CAPACITY OF POLICE EFFECTIVENESS TO MANAGE DISASTER SCENES

14. What are the forms of community support in disaster scene management?
15. How is the community involved in disaster scene management?
16. How do the police involve the community in disaster scene management?
17. In your opinion, what should be done to improve police effectiveness in disaster scene management within the CBD?

Appendix III: Budget

ITEM	UNIT COST	QUANTITY	COST	TOTAL COST
HUMAN RESOURCE				
Training of research assistants	250	2x250	500	
Pre-testing of questionnaire and interview guide	250	2x250	500	
Research assistants(2)	250	2x250	500	
Data collection	500	2x500	1000	
Sub-total				<u>2500</u>
MATERIALS AND SUPPLIES				
Biro pens(1 dozen)	180	180x1	180	
Pencils(1 dozen)	60	60x1	60	
Rubbers(3)	10	10x3	30	
Folders(3)	100	100x3	300	
Field books	65	65x3	195	
Flash disk	1	1x600	600	
Sub- total				<u>1365</u>
PROPOSAL AND THESIS				
Proposal typing and printing (30 pages)	3	3x40	120	
Photocopying final report (3 copies)	2	2x40	80	
Proposal paper binding	4	4x40	160	
Ethics committee fee	1	1x500	500	
Lunch allowance fee	2	2x500	1000	
Sub-total				<u>1860</u>
TOTAL				<u>5725</u>

Appendix IV: Implementation Schedule

Description	Number of weeks																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Proposal development	█	█	█	█	█	█	█													
Proposal defense							█													
Data collection								█	█	█	█									
Data coding and analysis								█	█	█	█	█	█	█						
Report writing															█	█	█	█		
presentation																			█	█