

UNIVERSITY OF NAIROBI



DEPARTMENT OF DIPLOMACY AND INTERNATIONAL RELATIONS

**THE SIGNIFICANCE OF CIVIL DEFENSE IN DISASTER MANAGEMENT IN
EASTERN AFRICA: THE CASE OF NAIROBI COUNTY, KENYA**

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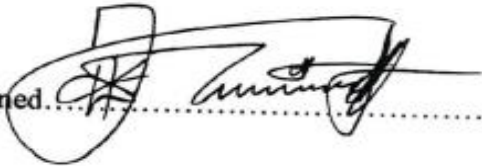
DECLARATION

I, Elon Matendechere Were hereby declare that this project is my original work and has not been submitted in any other institution for any academic purposes.

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DEDICATION

I dedicate this work to my sons Amos, Adrian and Alexander. I hope that this will be evident to you, that hard work and trusting in God are not an option but a necessity to achieving what is seemingly difficult. To my dear wife Elizabeth, who constantly offered encouragement and remained a steadfast supporter of my academic endeavors, your advice and admiration has been unswerving.

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LIST OF ABBREVIATIONS

ALRMP	-	Arid Lands Resource Management Project
ASAL	-	Arid and Semi-Arid Land
CBD	-	Central Business District
CCN	-	City Council of Nairobi
CD	-	Civil Defence
CEC	-	County Executive Committee
CHRIPS	-	Centre for Human Rights and Policy Studies
CM-Coord	-	Civil Military Coordination
COVID-19	-	Corona Virus Disease - 2019
CRED	-	Centre for Research on the Epidemiology of Disasters
CUE	-	Commission for University Education
CVE	-	Combat Violent Extremism
DCC	-	Deputy County Commissioner
DPT3	-	Diphtheria-Tetanus-Pertussis
DRU	-	Disaster Response Unit
EDE	-	Ending Recurrent Drought Emergencies
EM-DAT	-	Emergency Events Database
EWS	-	Early Warning System
FEWS NET	-	Famine Early Warning Systems Network
FSV	-	First Service
GOK	-	Government of Kenya
HIV/AIDS	-	Human Immuno-deficiency Virus/Acquired Immuno-deficiency Syndrome
ICT	-	Information and Communications Technologies

IDP	-	Internally Displaced Persons
IPAWS	-	Integrated Public Alert and Warning System
IPC	-	Integrated Food Security Phase Classification
IPCC	-	Intergovernmental Panel on Climate Change
KDF	-	Kenya Defence Forces
KFSM	-	Kenya Food Security Meeting
KFSSG	-	Kenya Food Security Steering Group
KMD	-	Kenya Meteorological Department
KRCS	-	Kenya Red Cross Society
MCA	-	Member of County Assembly
NCA	-	National Construction Authority
NCTC	-	National Counter Terrorism Center
NDCC	-	National Disaster Coordination Committee
NDMA	-	National Disaster Management Authority
NDMU	-	National Disaster Management Unit
NDOC	-	National Disaster Operation Centre
NEMA	-	National Environmental Management Agency
NEP	-	North Eastern Province
NGO	-	Non-Governmental Organization
NMT	-	Non-Motorized Transport
NTSA	-	National Transport and Safety Authority
NYS	-	National Youth Service
RSMC	-	Regional Specialized Meteorological Center
RTD	-	Road Traffic Disaster

SAM	-	Severe Acute Malnutrition
SOP	-	Standard Operating Procedures
STI	-	Sexually Transmitted Infection
UAE	-	United Arab Emirates
UHC	-	Universal Health Coverage
UN	-	United Nations
UNDRR	-	United Nations Office for Disaster Risk Reduction
UNICEF	-	United Nations International Children’s Emergency Fund
UPS	-	Uninterruptible Power Supply
US	-	United States
TB	-	Tuberculosis
WHO	-	World Health Organization

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ABSTRACT

Disasters whether man-made or natural often have devastating impacts that threaten human life and infrastructure. Countries world over have endeavored to institute disaster management mechanisms focused on lessening the caustic effect of disaster incidents. The cutting-edge that makes the difference in the consequences of disaster in any Country is on how effective its disaster management systems perform. Civil defence is population-centric in nature and brings the citizens into perspective in managing disasters, and its significance in promoting urban resilience has not been fully interrogated by the academia, especially in the African Continent and Eastern Africa in particular. This study therefore, seeks to explore the significance of civil defence focusing on Nairobi County, Kenya. The study was premised on investigating the trend in response to major disaster incidences in Kenya, and examine the role of civil defense in disaster management while establishing key challenges faced by civil defense systems in Nairobi County, Kenya in managing disasters. A pragmatic research design was applied to assess the frequency of disaster occurrences using quantitative analysis, and the responders' efficiency to such incidences through qualitative research by getting opinion from different entities on how effective various agencies perform in response to disasters. The study established that most disasters are human generated hence avoidable; lack of immediate action response by those responsible and entrusted to ensure public safety during disasters lead to even more human suffering and further threaten sustainable livelihoods and coping strategies in the aftermath. Civil defence guarantees public awareness, preparedness and citizen participation in assuaging disaster reverberations across the management cycle. Authorized responding agencies often lack synergy and synchronized multi-agency perspective that undermines seamless disaster response efforts. It is imperative therefore, to accentuate that coordinated civil defence disaster management systems and functional policy framework are indispensable to assure public safety and guard against eminent and potential disasters. Overall, putting the communitarian and public administration theories in context, the inherent ideals include protection of life, property and liberties enjoyed by citizens of a country in the event of a disaster; and advocates for collaborative means in which both an authentic community and the government have a responsibility in disaster management before, during or post crisis.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

Safety is a crucial fragment of the civil community to fulfill basic necessities essential for society. Rendering security and with it a feeling of well-being is firmly identified with different elements of public preparation. This study therefore examines the significance of civil defense in disaster control in Eastern Africa: the circumstance of Nairobi County, Kenya. This section therefore conversed the background of the study, problem statement, research objectives and the research questions. The chapter also covers the literature review, the validation of the study, theoretical framework, research methodology, limitations and summary.

1.1 Background of the Study

Disaster control is a very essential undertaking in lessening the bad effects of the overall progress of a nation and its people.¹ During disasters, the damage is usually so extensive because in many cases, the situation is unprecedented. In truth, when disasters happen the rescuer's first action is to strive to rescue lives and offer temporary shelter to victims. Several actors show up with all types of personnel, equipment, tools and other forms of materials to assist in bringing a sense of normalcy.² Here supplies are provided in large amounts. Nonetheless, such assistance may help in saving lives but be insufficient in saving the disaster stricken people's livelihoods. Later, after destruction brought about by calamities; rescuers leave the region with no legitimate adapting designs or mechanisms for continued survival. As a result, the exposed victims are left to stand alone, such that in the advent of a similar catastrophe, they will remain to be reliant on

¹Michael Marshall. "Climatic, socio-economic, and health factors affecting human vulnerability to cholera in the Lake Victoria basin, East Africa." *AMBIO: A Journal of the Human Environment* 36, no. 4 (2007): 350-358.

²Andrew OchiengAdwera. "Climate change and coastal cities: the case of Mombasa, Kenya." *Environment and urbanization* 20, no. 1 (2008): 231-242.

the diverse services of the rescuers to come to their aid. Apparently, this will be done through stop-gap measures, often unreliable.³

Oringa posits that the requirement for creating survival measures inside such vulnerable groups is urgently needed. Because of the reactionary nature of dealing with catastrophes particularly in the non-industrial nations, disasters have proceeded to set off severe destruction, affecting development progress already made in many sectors of the economy. It is unfortunate that whenever calamities have occurred, individuals are inclined to ignore the fact that the likelihood of the event happening again exists, and revert to normal life. While the individuals or the general population might be pardoned for this inconsistency, governments globally have been viewed as definitive experts in acting to forestall disaster as well as to make preparations on how to deal with such events should they recur and execute their plans once they do occur. The present circumstance requires all legislatures to have strategy guidelines on catastrophe management or face the danger of being not able to address the impacts of the mishap when it occurs.

In the circumstance of Kenya, Munene sees that without an unmistakable and exhaustive disaster management strategy and a rational institutional structure to carry it out, the public authority's reaction to different kinds of catastrophes has been obscured by government bureaucracy and an absence of coordination. Here, the defence forces have often been alerted when it is almost too late to save the disaster after other rescuers have failed to curb the incident.⁴ Regardless of the fact that some disasters are frequent in the nation such that it's easy to predict their occurrence, they keep happening. For instance, the regular flooding in Nyando plains in

³Christopher Oringa. "Changes in the drylands of eastern Africa: case studies of pastoralist systems in the region." *Nairobi: DFID East Africa Research Hub* (2016).

⁴Munene, Pauline W. "An Assessment of Fire Disaster Management in Urban Areas: a Case Study of Nairobi City County, Kenya." PhD diss., University of Nairobi, 2019.

Kisumu County, Budalangi in Busia, and the common droughts in the counties of Turkana, Wajir, Mandera, among others.

Apparently, such types of disasters have had the tendency to catch the government unprepared. This situation illustrates the need for clear protocols in disaster management because when the less common disasters occur, it is hard to understand the type of disarray it can cause to each party involved. For instance, the 1998 bomb attack and more recently, the collapse of a building within Kenya's capital Nairobi are compelling indications of the hazards posed by an undefined response mechanism to disasters. In both occasions, the efficiency of the response team was not prompt. This implies that there is a pressing requirement to establish catastrophe management facilities guided by robust regulations. In addition, the capacity of the military ought to be recognized and visualized in the catastrophe management methods of the country. This is significant on the grounds since it will guarantee a more successful reaction by the organization rather than the current circumstance where they are occasions called upon as the last outcome. This examination along these lines tries to evaluate the meaning of common guard in misfortune in the board of eastern Africa: the instance of Nairobi County, Kenya.

1.2 Problem Statement

Throughout the years, Kenya has been presented to a scope of calamities like droughts, fires, floods, HIV/AIDS, industrial accidents and terrorism, among others. Kenya, as many other different nations in Africa and worldwide has encountered an expansion in the recurrence of disasters in the course of many recent years. As a rule, this has prompted an upsurge in the measure of residents influenced and property obliterated bringing about genuine financial issues. Disaster impacts have become an obstruction to the long term economic and social advancement targets of Kenya. For instance, the 1999 – 2001, drought was the most exceedingly awful over

the most recent 100 years. It affected most sections of the nation including some highly likely territories. At its peak in late 2000, 4.5 million individuals across most parts of the nation had lost their daily livelihoods and adapting systems and needed to rely completely on food donations. It is assessed that the reaction to this drought cost the public authority and different partners USD 340 million. However, just 50% of this sum would have been adequate had there been a successful Disaster Management framework set up.

There is neither a coordinated policy framework nor a legal basis for the current calamity management system. In existence is a partial spontaneous system that is used by Government and its development partners (the UN system and other relief agencies) to react to calamities, either manmade or natural, for example, the 1999-2001 dry seasons that influenced more than 4.5 million Kenyans. The different initiatives which work instead of a planned framework incorporate the actions of these players and associations: Kenya Food Security Meeting (KFSSM)/Kenya Food Security Steering Group (KFSSG) and the Arid Lands Resource Management Project (ALRMP). The self-evident responsibility and cooperation of an enormous number of partners in the current disaster controlling endeavors means that the current issue will be to address Disaster Management in the country. Different members in catastrophe management incorporate specific divisions like the National Disaster Operation Center (NDOC), the Police, the Department of Defense, the National Youth Service (NYS), neighborhood Fire Brigades, St John's Ambulance Service, Kenya Red Cross Society, Occupational Health and Safety Services, Kenya Wildlife Services and the National Environment Management Agency (NEMA). These commence pro-active and responsive disaster related exercises, including Environmental Impact Assessments and Audits, 'search and rescue', emergency treatment

administrations and clearing, anti-terrorism observation, law implementation and group control, harmony building, clash resolution activities and firefighting.

The role and the significance of civil defense in disaster management has remained unknown across the globe. In Kenya, the military has been engaged in response to different types of disasters with surprising achievements. In any case, no examination has been led on their inclination of inclusion, the job they perform and how the equivalent can be organized in the nation's calamity reaction and public improvement tactics for improved execution.

Kenya's inability to enact detailed calamity readiness policy implies that its reply to highly dangerous catastrophes such as epidemics, building collapses, floods, and droughts has lacked effective coordination. At the same time, they have been expensive and slow. Consequently, the majority of disaster response programs have often been short-term.⁵ According to a statement by the head of the Disaster Prevention and Mitigation Unit of the Kenyan Meteorological Department, Julius Kabubi, the deficiency in disaster preparedness in Kenya has been a problem for many years. This deficiency was illustrated in 2009 when Nakumatt Supermarket caught fire in Nairobi city. As a result, several people were injured while others lost their lives. Firefighters showed up after the expected time, in inadequate numbers and without enough water, lengthening the time and exertion to arrive at those influenced. In light of deteriorating weather patterns influencing Kenya, Kabubi sees that the public authority has perceived the need to build up an institutional, strategic and legitimate system to adequately oversee disaster and hazard readiness. A public strategy has been surveyed and redrafted in the course of recent years yet never arrived at parliament, he added. This examination is convenient and remarkable in light of the fact that it will break down the vital role the common protection

⁵ Col Joseph Kingori, Deputy Director of the National Disaster Operations Centre (NDOC), 2008

plays during catastrophe, will recognize requirements and propose better methods of using this secret weapon for better future crisis management in the country. The investigation further will serve to enhance the current writing on the examination which, as the analyst discovered is very inadequate. It is trusted that its discoveries and proposals will go far to incite a journey for more extensive exploration in this urgent territory.

1.3 Research Questions

- i. What are the trend and response to the recent major disaster Incidents in Kenya?
- ii. What is the role of civil defense in disaster management in Nairobi County, Kenya?
- iii. What are the key challenges faced by civil defense in the disaster management in Nairobi?

1.4 Objectives of the Study

General Objective

This research seeks to assess the significance of civil defense in disaster control in eastern Africa: the case of Nairobi County, Kenya.

Specific Objectives

- i. To investigate the trend in response to the recent major disaster incidences in Kenya.
- ii. To examine the role of civil defense in disaster management in Nairobi County, Kenya.
- iii. To establish and examine the key challenges faced by civil defense in the disaster management in Nairobi.

1.5 Literature Review

This section presents empirical literature and theoretical review on the topic under discussion.

1.5.1 Theoretical Literature

To examine the key debates on the significance of civil defence in disaster management, this study has used public administration theory.

1.5.2 Empirical Literature

To help identify knowledge gap for this study, this section has reviewed literature around the three study specific objectives: To investigate the trend in response to major disaster incidences in Kenya; to examine the role of civil defense in disaster management; and establish key challenges faced by civil defense in disasters management in Nairobi County, Kenya.

1.5.2.1 The Concept of Civil Defence

Civil defense is a strife to secure the residents of a state (mostly non-soldiers) from military assaults and cataclysmic events. It utilizes the standards of crisis activities: decrease, reaction, planning, and counteraction or crisis rescue tasks. These sorts of projects were talked about as early as the 1920s and were subsequently executed in certain countries during the 1930s. It became a common occurrence after the dangers of nuclear weapons were witnessed.⁶ After the Cold War came to a close, civil defense forces have transformed their method of operation from regular military attack to comprehensive operations that covers emergencies and disasters.⁷ The new idea is explained differently, each has its particular implication, such as emergency and

⁶Oakes, Guy. *The imaginary war: Civil defense and American Cold War culture*. Oxford University Press, 1995.

⁷Ibid p. 200

crisis management, contingency planning, emergency preparedness, civil contingency, assistance and protection.

In some nations, civil protection is viewed as an integral part of overall defense. For instance, *totalförsvaret* (which means "total defense" in Sweden) implies the commitment of various nationwide resources to its safety, encompassing the protection of all factors of civilian existence.⁸ Some governments have founded civil protection along paramilitary fronts, or integrated it within the military. An example is the Soviet Civil Defense Forces. Several nations continue to maintain a federal Civil Defence Corps, often having a broad précis for helping in substantial civil disasters such as invasions, earthquakes, floods, and civil disorder. The military wing in Kenya is referred to as the Kenya Defence Forces (KDF). They comprise the Kenya Navy, Kenya Army, and Kenya Air Force. The structure and composition of the KDF as currently constituted, is captured in article 241 of Kenya's Constitution. The KDF Act of 2012 forms the guiding principle. Its central purpose is the defence and protection of Kenya's territorial integrity and sovereignty.

1.5.2.2 Trends in Disaster Management

Coppola found out that catastrophe management is a vital endeavor in lessening the antagonistic effect of those events to the overall improvement of a nation and its kin.⁹ Coppola says that whenever a disaster occurs, the destruction is commonly so extensive since in most instances, the happening is unprecedented. According to the findings, when a tragedy happens the rescuer's first action is to attempt to save affected persons and resettle casualties. Numerous participants show up with all types of devices, equipment's, work force and different sorts of

⁸Garrison, Dee. *Bracing for Armageddon: Why civil defense never worked*. Oxford University Press, 2006.

⁹Coppola, Damon P. *Introduction to international disaster management*. Elsevier, 2006.

assets to help in normalizing the circumstance. Coppola did not investigate the role of civil defense in managing the disaster, hence the need of the current study.

Suda states that absence of calamity readiness has stayed one of Kenya's withstanding improvement issues for quite a long time. As per Suda, Kenyan Regime has been industriously reprimanded for this by its residents and surprisingly unfamiliar physiquies. It shows circumstances where regardless of the bunches of disasters looked by the state over years, almost no exercises have been picked to help in anticipation, forecast and management of these crises. Each occasion happening with the greatness of disasters in Kenya presents an emergency circumstance that crippling affects a few united areas. Anyway Suda additionally neglects to examine the part of common protection in dealing with the calamity, subsequently the need of the current investigation.

According to Alice Atieno the current calamity management system is a result of consultative endeavors attempted by a few partners from 2009. Be that as it may, there is as yet an obvious need to lead investigate and grow more proof based and extraordinary methodologies. Especially, this is considering the shortcomings distinguished in the administration of ongoing innovative/synthetic catastrophes experienced in the nation as of late like the Solai Dam disaster, Mudslides in West Pokot and Elgeyo Marakwet, and a few structure breakdowns in Nairobi city among others. The reaction frameworks have been awkward and essentially impromptu with insignificant contribution of the public authority specialists thus coming about to a broad death toll and property. The UN offices, worldwide associations, the NGOs, the nongovernmental helpful offices and other nearby alleviation organizations have taken the foreplay in many events. Alice Atieno's study is general and did not analyze specific Case County in Kenya. It also fails to

assess the key challenges faced by civil defense in the catastrophe management in Nairobi. Hence the recent study seeks to fill the gap.

1.5.2.3 The Role of Civil Defense in Disaster Management in Kenya

Calamity Management is an essential arrangement and methodology that is controlled and utilized to ensure basic frameworks (additionally called "basic resources") from intense annihilations when common or fake misfortunes and deadly occurrences occur.¹⁰ In the United States, Executive Order 13407 is accepted as a procedure for the nation to have a practical, credible, incorporated, adaptable, and detailed strategy to alert and notify the general public, which is referred to as the "Integrated Public Alert and Warning System (IPAWS). In the later year of 2010, Europe began to build up an essential National Disaster Management after such countless common disasters occurred in the time of 2010.

There are 725 exceptionally climate marvels caused billions of Euro harm and many individuals lives. Calamity management plans are multifaceted and are intended to address such issues as floods, storms, flames, bombings, and surprisingly mass disappointments of utilities or the quick spread of sickness. The catastrophe plan is probably going to address significant issues as surrendering individuals from an affected locale, orchestrating transitory lodging, food, and clinical consideration.

Calamity management targets to diminish, or evade, the possible losses from hazards, guarantee immediate and proper aid to casualties of catastrophes, and attain quick and significant rescue.¹¹ The Calamity management process demonstrates the persistent technique by which administrations, companies, and civil unions strategize on and reduce the effect of tragedies,

¹⁰Coppola, Damon P. *Introduction to international disaster management*. Elsevier, 2006.

¹¹Carter, W. Nick. "Disaster management: A disaster manager's handbook." (2008).

respond during and shortly after a calamities, and take measures to heal after the occurrence of a disaster. Reasonable efforts at all junctures in the process result in considerable preparedness, reduced exposure, better warnings, and the deterrence of catastrophes during the successive iteration of the process. The finished calamity management process encompasses the structuring of public strategies and procedures that either amend the motives for disasters or reduce their impacts on society and property.¹²

Draft disaster management policy in Kenya 2009 posits that the nation has over the years faced increasing vulnerability to disasters due to a number of factors.¹³ The draft policy identified factors such as famine, poverty, drought, perennial flooding, existence of poor buildings and roads and other infrastructure and absence of vital services especially in the informal settlements as a combination that has served to predispose the citizens to impacts of disasters. The government has been the primary actor that is tasked with the role of maintaining safety for Kenyans. Chapter 14 of the Constitution of Kenya, establishes the national interests in particular those that the state is supposed to provide and preserve. These include, territorial integrity, property, peace, stability and prosperity of which disasters whether natural or manmade pose threats to.¹⁴

The National Disaster Management Authority Bill 2019, seeks to establish a fully-fledged authority with the capacity to respond to disasters effectively. This authority is expected to liaise with county governments to carry out its mandate which includes establishment of a National Early Warning Disaster Management Information System, act as a centralized forum for

¹²O'Brien, Geoff, Phil O'keefe, Joanne Rose, and Ben Wisner. "Climate change and disaster management." *Disasters* 30, no. 1 (2006): 64-80.

¹³Bojovic, Dragana, and Carlo Giupponi. "Understanding the dissemination and adoption of innovations through social network analysis: geospatial solutions for disaster management in Nepal and Kenya." *Journal of Environmental Planning and Management* 63, no. 5 (2020): 818-841.

¹⁴Mungatia, Lucy K. "Effectiveness of supply chain strategy in disaster management in world vision Kenya." (2010).

dissemination of information related to disasters in the country amongst others. In Kenya as most crises regularly include different players, supervisors and military officers depend in some way or another on coordination between these players. An essential issue that sabotages any endeavors to arrange military participants in CD preparation is the organized utilization of power among the worldwide local area. Though, common military entertainers that are required to assume parts in managing changing dangers and changes in wellbeing and security think that it's interesting to allude to this type of power and to work as a feature of the crisis arrangements. Be that as it may, as the space of complex crises stays indistinct, both of the roles played by common and military entertainers gives direction to the uncomfortable connection between crisis readiness arranging and CD preparation. The ramifications of these connections somewhat start in changes identified with common society rights and assumptions in crisis tasks, for example, when common military coordination is needed to get back to essential capacities to decrease vulnerability.

1.5.2.4 Challenges Faced by the Civil Defense in Disaster Management

Resource scarcity has been a major challenge for the actors engaged in response to disasters in Kenya, with the state more often than not reaching out to well-wishers to come to its aid to enable responses to disasters. Absence of a comprehensive framework for disaster management has proven costly for the nation in its efforts towards responding to disasters.¹⁵

A case in point is the amount of money spent in responding to the 1999-2001 drought that cost the national economy billions of shillings and in its wake left about 4.5 million people in a

¹⁵Nyamu, Thomas Kiura. "Impact of supply chain management challenges on humanitarian organizations in Kenya." PhD diss., 2012.

dire situation, decimated about 60-70% of livestock in the pastoral regions of Northern Kenya and other areas that were worst hit.¹⁶

The disaster management regime in Kenya had been set up in manner that it operated on an ad hoc basis where efforts seemed to be scrambled when a disaster has already struck.¹⁷ This has seen the response efforts to disasters become characterized by confusion, poor coordination of the response activities. Bureaucracy negatively impacts in delaying response to disasters where there has been seen to be competition as to which agency is supposed to respond to a crisis leading to a bad situation getting worse, case in point the West Gate terror attack and the resultant confusion.¹⁸

1.5.3 Gaps in Literature

From the above literature review this study has established that the trend in response to recent major disaster incidences in Kenya has not been well addressed by other scholars. It is also emerging that the role of civil defence in disaster management in Nairobi, Kenya is also not well documented. This study will therefore, not only address these two areas but will also examine the key challenges faced by civil defense in the disaster management in Nairobi County.

1.6 Research Hypothesis

The following statements were formulated to test as the study hypothesis:

H¹ Civil defence has significance in disaster management in Kenya's Nairobi County.

H⁰ There are no challenges faced by civil defence in disaster management in Nairobi County.

¹⁶Ngaira, Josephine KW. "Challenges of water resource management and food production in a changing climate in Kenya." *Journal of Geography and Regional Planning* 2, no. 4 (2009): 079-103.

¹⁷Ndar, Alphonse. "A Critical Analysis of Kenya's Disaster Management Strategy." PhD diss., University of Nairobi, 2019.

¹⁸ Ibid p. 14

1.7 Justification of the Study

The weight of disasters traces all the way back to the Stone Age time frame during the early man's presence to the present modern period. Disasters are characterized by the United Nations Office for Disaster Risk Reduction (UNISDR) as "A genuine interruption of the working of a local area or a general public including extensive human, material, monetary or ecological misfortunes and effects, which surpasses the capacity of the influenced local area or society to adapt utilizing its own assets". The catastrophes classified as either normal or man-impacted relying upon the reasons to cause enormous harm and misfortunes all around the world to people. The stunning social, financial and even advancement impacts during and post-disasters are gigantic and now devastating and justifying outside mediations by the philanthropic organizations.

The dominance of these calamities either happening normally or artificially have anyway been exasperated by specific exercises of man. Human exercises have commonly inclined him and his encompassing to the absolute deadliest calamities ever. The appropriation of calamities is worldwide. It is anyway basic to take note of that the nations or locales most noticeably terrible hit are the low and middle income nations. These nations regularly have the heaviest setbacks regarding the human passing and wounds, creature misfortunes and demise and ecological harm. They have distinctively exceptionally restricted ability to satisfactorily plan, forestall and react in case of a catastrophe. Moreover, these nations do have a few requirements and needs both in the wellbeing area and other improvement regions. This research looks to feature the nation calamity profile of Kenya and more in Nairobi and the significance of civil defense in carrying out the duty.

This study aims to analyze the existing policy framework targeted towards managing disaster in the country and especially in Nairobi. The purpose of the analysis is to identify existing policy gaps especially where weaknesses may exist with an aim of closing the policy gap to enhance the response to calamities in the country, the region and beyond.

In addition, it's expected that this paper shall enrich the field of academia by analyzing existing literature on civil defense and disasters management. This is in the aim of identifying the literature gaps that should be addressed by the academia for purposes of coming up with enriching literature on the topic under discussion. This will enhance scholarly to be undertaken in the direction of generating more knowledge on the area of disasters and disaster management to enhance better mitigation and responses to all actors involved.

1.8 Theoretical Framework

This research is grounded on the public administration theory and communitarian theory.

Public Administration Theory is the incorporation of history, organizational, social, political concepts and applicable research concentrated on the structures, implications and functions of public governance.¹⁹ It often reviews important historical organizations for the study of epistemological and bureaucratic matters related with public leadership as a career and intellectual field. Public administration is the execution of government policy and academic profession that prepares civil servants for serving in the civil service. Prominent scholars of the study comprise: Frederick Winslow Taylor, Max Weber, Luther Gulick, Chester Barnard, Mary

¹⁹Frederickson, H. George, Kevin B. Smith, Christopher W. Larimer, and Michael J. Licari. *The public administration theory primer*. Westview Press, 2015.

Parker Follett, Dwight Waldo and Herbert A. Simon who advanced a public administration concept instructed by positivism.²⁰

The public administration theory is a tool that in essence should provide the way forward for disaster management in terms of the ideals to be pursued in the course of disaster management.²¹ The ideals of public administration theory comprise protection of life, property and liberties enjoyed by citizens of a country in the event that a disaster befalls a country. These ideals should be applicable at various stages with reference to the phenomena of disasters namely, planning mitigation as well as response. The goals of this theory include restoration of services in the event that a disaster has struck, as well as law and order in the post-disaster phase.

Amitai Etzioni is an American sociologist who is a native German but was born in Israel. He is famous for his work on communitarianism and socioeconomics.²² He established a non-partisan and not for profit organization called the Communitarian Network. This organization was committed towards supporting the political, social, and moral underlings of society. This dedication earned him the title of “guru” in the early 1990s. He also founded this Communitarian Network to communicate the movement's intentions.

The communitarian theory is anchored on the understanding of how responsibility is allocated in the event of a disaster. It provides a way of explaining how both the community and the government all have a responsibility in disaster management. It is a tool that explains responsibilities in managing disaster and how communities respond to the government in the event it fails in its responsibilities. Etzioni further expands the understanding of this theory by use

²⁰Vandenabeele, Wouter. "Toward a public administration theory of public service motivation: An institutional approach." *Public management review* 9, no. 4 (2007): 545-556.

²¹Box, Richard C. "Running government like a business: Implications for public administration theory and practice." *The American Review of Public Administration* 29, no. 1 (1999): 19-43.

²²Etzioni, Amitai. "A communitarian note on stakeholder theory." In *Essays in socio-economics*, pp. 27-42. Springer, Berlin, Heidelberg, 1999.

of the term authentic community which is appreciated as a community that is responsive when it comes to addressing the needs of its citizens.

1.9 Research Methodology

The study research methodology has been presented and covers the research design, study location, targeted population, sampling, data collection methods, and techniques used in data analysis.

1.9.1 Research Design

This investigation utilized pragmatic research design. In this methodology the scientist consolidates subjective and quantitative strategies, approaches, ideas or language into a solitary report in a contemporary manner to have the option to address the exploration question close by viably. Blended exploration is a sweeping and imaginative type of examination which is comprehensive, pluralist, and correlative. Through triangulation one technique can help create or educate the other. Essentially one technique can be settled with another to give experiences into an alternate degree of examination. This implies that pragmatic researchers investigate entities in their normal settings, striving to formulate, or discern, happenings in terms of the implications people generate to them. Besides, this approach can be employed to unearth trends in opinion and beliefs, and dig deeper into the crisis.

1.9.2 Population and Sampling

The study targeted disaster management organizations in Nairobi. It chose authorities from seven of the couple of firms managing cataclysm the executives in for sure in Kenya. The targeted organizations included the National Disaster Operation Center (NDOC), National Disaster Management Unit (NDMU), KDF's Disaster Response Unit (DRU), the National

Drought Management Authority (NDMA), Ministry of Health, National Environment Management Agency (NEMA) and the Kenya Red Cross. To acquire a delegate test of the authorities, a purposive/judgment inspecting strategy was applied. This was on the grounds that the specialist was just intrigued with well-qualified assessment on broad issues in regards to calamity the board in Kenya and the part of common guard around here.

1.9.3 Data Collection

Study gathered both essential and auxiliary information through the use of interview guide (See Appendix 2). Essential information was gotten from the ground through conversations with chosen authorities from seven of the couple of associations managing disaster management for sure in Kenya. A physical and virtual meeting were directed through utilization of open ended inquiries for those easily reachable, while for the individuals who couldn't be reached after such a meeting, the inquiries were sent to the respondents and composed answers got back through email administration.

The study also collected secondary data through desktop review. The desk review method not only focused on the strategies by the government but also the policies and the institutions that the state has created to help prevent, prepare, mitigate or rehabilitate the victims of disaster. The desk review method looked at the effectiveness of these policies as well as their limitations in order to find out what can be done to make disaster management strategies more relevant to the changing times in the country.

1.9.4 Data Analysis

The technique used in data analysis was Qualitative. It was used in analyzing the data in exploration of various concepts with the intention of providing more understanding of a topic as well as for the purpose of creating awareness of an existing concept. The data collected through desk reviews was analyzed through content analysis. Content analysis was mainly used as a research tool since it helps to make valid inferences by interpreting textual materials and it allowed the researcher to systematically evaluate past texts from various literatures associated with data management. Content analysis helped the researcher to interpret responses from the literature gathered as well as to conduct an effective analysis of the data collected. This made it easier to make inferences on the data collected during the study.

1.9.5 Scope and Limitations of the Study

Nairobi is the capital city of Kenya. Here you will discover individuals from all aspects of the country and from all clans and races. Moreover, various catastrophes including assaults have occurred in the city in the course of recent years, the latest being the Westgate Mall terrorist 17 assault in 2013 where 67 individuals died. Nairobi being the city, Kenyans and foreigners from a wide range of life are found here. It is home to the wealthy people and poor people. Moreover, a large portion of government workplaces are found here. Since this examination intends to discover the meaning of common guard in a disaster management in eastern Africa: the instance of Nairobi County, Kenya, Nairobi city was picked as the main domain for the investigation.

1.10 Chapter Summary

This investigation is masterminded with five parts as clarified as follows:

Section one is the proposition with the subsequent subheadings, presentation, foundation of the examination, explanation of the issue, general unbiased, explicit goals, research questions, writing survey, support of study, hypothetical system, research procedure, degree and restrictions of study and part diagram. Section two investigates the trend and response to the recent major disaster Incidents in Kenya. Section three established the role of civil defense in disaster management in Nairobi County, Kenya. Section four established and assessed the key challenges faced by civil defense in the disaster management in Nairobi. Section five contains the summary, conclusion and recommendations of this study. It suggests measures to take in order to manage the common occurring disaster as well as the preparedness of accidental disasters.

CHAPTER TWO

THE TRENDS AND RESPONSE TO THE RECENT MAJOR DISASTERS IN KENYA

2.1 Introduction

This chapter deliberates trends and response to the current major disaster incidents in Kenya. Disaster trends discussed include: drought, pandemics/diseases, terrorism, fire disasters, flood and landslide, transportation accidents and structural collapse.

2.2 Overview of Disaster Occurrences in Kenya

The significant episodes in Kenya can be extensively gathered into regular occurrences and synthetic occurrences. Regular episodes incorporate droughts, floods, avalanches, volcanic ejections, and scourges. It was seen that more than 1,500 individuals have passed on, and more than 1,000,000 have been influenced by natural significant occurrences in Kenya over the most recent 12 years. Synthetic occurrences incorporate vehicle episodes, poisoning occurrences, terrorist episodes, mass-social event episodes and mechanical episodes. Kenya encounters various natural dangers. Some other possible sorts of perils famous in Kenya may incorporate HIV/AIDS and struggle. These dangers have expanded in their statistics, recurrence of events and intricacy in the previous years. Thus, the level of their association and annihilation has gotten more extreme.

2.2.1 Drought Trends and Response in Kenya

In January 2014, Kenya's regime pronounced an approaching dry season with an expected 1.6 million individuals affected. Later a lackluster showing the extended rains among March and May 2014 in the dry and semi-parched territories, the deficiency in rainfall went on to impact both marginal agriculturalists and pastoral communities in North Eastern, North

Western, Coast and South Eastern. The impact was mostly felt on livestock productivity and food availability. The situation proceeded to deteriorate because of inflation that affected food prices.²³ The severely food insecure people grew from 1.3 million to 1.5 million between the months of February and August of the same year. Several households continued to be stressed (IPC Phase 2). While others, particularly from the counties of Baringo, Mandera, West Pokot, Samburu, Turkana, and Wajir shifted towards a crisis (IPC Phase 3). By the last quarter of the same year, several homes were inclined to shift into crisis (IPC Phase 3).²⁴

The Long Rains Assessment (LRA) of 2015 established that an estimate of 1.1 million citizens in Kenya are severely food insecure and are unable to satisfy their basic food needs, therefore compelling rapid food relief for the second half year (from September 2015 to February 2016).²⁵ As of 2016, the food insecurity situation was precedent to continue throughout the prospective period, particularly in the some coastal areas, the northwest, northeast, and southeast marginal agricultural zones. The conventional recuperation of cropping and rangeland limitations in the last quarter of 2016 was unlikely. Several households were anticipated to stay Stressed (IPC Phase 2).²⁶ Increase in food insecurity endured even after the beginning of short rains.²⁷ The situation was illustrated by the increased number of food insecure persons from 600,000 in 2015 to 1.25 million in 2016.²⁸ The shortage of food and drought situation in many of the counties varied from mild to severe.²⁹

Early in February 2017, Kenyan Government announced a nationwide drought emergency, after 50% of its counties were affected (23 out of 47 counties). The amount of

²³IFRC, 24 Sep 2014

²⁴FEWS NET, 26 Aug 2014

²⁵Govt. 11 Sep 2015

²⁶FEWS NET, 01 July 2016

²⁷FEWS NET, 03 Oct 2016

²⁸OCHA, 26 Oct 2016. Pg 27

²⁹Govt. 27 Oct 2016

people who were food insecure escalated to a remarkable 2.7 million from the initial 1.3 million recorded in the previous year. At the same time, pregnant mothers and about 357,285 children were severely malnourished.³⁰

Over 2.6 million persons were intensely nutrition insecure after the elapse of six months in 2017 – a figure that was on the rise. Significant extents of malnutrition were common in vast parts of the arid and semi-arid areas (ASALs). Some sub-counties reported a Global Acute Malnutrition percentage of 30, which is twice the crisis limit. Severe drought has shrunk more than half of the water resources Kenya and about 3 million citizens lacked provision of clean water.³¹

According to findings by the National Drought Management Authority's (NDMA), although the extended rains had ceased, several portions of the ASALs were nonetheless enduring long distances between residence and water points, an uncharacteristic increase in food prices, and distressing malnutrition levels. Insecurity associated with resources exacerbated, while African and Fall Armyworm attacks on crops continued to endanger productions in marginal agricultural areas, further deteriorating the outlook for the subsequent harvest.³²

After two seasons with unreliable rainfall, Crisis (IPC Phase 3) results were anticipated through the end of 2017 in Wajir, Turkana, Samburu, Marsabit, Isiolo, Mandera, Garissa, Laikipia, Samburu, and Tana River, needing critical humanitarian intervention. Nevertheless, in 2018, an advancement to Stressed (IPC Phase 2) results was anticipated in all pastoral areas; yet, some of the extensively susceptible homes had higher chances to remain in a Crisis

³⁰OCHA, 17 Feb 2017

³¹OCHA, 26 May 2017

³²UNICEF, 19 Jun 2017

(IPC Phase 3).³³ The lack of rainfall that was anticipated to continue into 2018 affected more than 3 million people and another half a million without access to clean water. An approximate 450,000 children required medication for severe malnutrition. This figure encompassed another 104,614 with severe acute malnutrition (SAM). Majority of the ASAL counties (23) contributed to a significant number of affected children (88%). This situation also resulted in truancy and active school participation—increasing dropout rates.³⁴

Stressed (IPC Phase 2) results were to be anticipated to continue through September in Wajir, Turkana, Samburu, Marsabit, Isiolo, Mandera, Garissa, Laikipia, Samburu, and Tana River because of several reasons, including insecurity, and a livelihood recuperation from flooding or drought.³⁵ Nationwide, the usual above-average rainfall from March to May assisted to enhance food security in 2018. The marginal areas that benefited from ready harvests shifted to Minimal (IPC Phase 1). The increased food security and livestock production because of rainfall notwithstanding, Stressed (IPC Phase 2) results were anticipated to continue in the following year.³⁶

In marginal agricultural areas, the little rains that usually fall from October to December were considerably below average. This situation hindered crop production in the said areas. Nevertheless, extensive rains output and replanting of short rains plants by cable families in some places boosted increased agricultural demand of labor and reasonable trade terms, promoting the diet security of the underprivileged. Consequently, increase in food

³³FEWS, 18 Nov 2017

³⁴FEWSNET, 30 Jun 2018

³⁵FEWSNET, 30 Jun 2018

³⁶FEWSNET, 28 Sep 2018

insecurity was likely to be incremental; however, Stressed (IPC Phase 2) results were foreseen to be extensive from February to May of 2019.³⁷

Respondents indicated that the hot climatic condition and dry atmosphere witnessed from January to March dragged several regions into the stage of raising a drought Alarm. More than 15 counties in the ASAL region were reporting a deepening trend with only three suggesting stability. Counties to have reached the Alarm stage included Garissa, Turkana, Marsabit, Mandera, and Wajir.³⁸ In June 2019, the season of long rains (from March to May) had come to an end and moving forward, only some parts of the country like central and western were likely to experience rainfall. According to findings by the Kenya Food Security Steering Group (KFSSG), an approximate 1.6 million citizens are in the level of Crisis (IPC Phase 3) because of unreliable rainfall during the rainy season. Moreover, these people are in urgent need of humanitarian intervention.³⁹

Respondents indicated that as the rainy period sufficed and the dry season advanced, the amount of people who were food insecure in Eastern Kenya was anticipated to increase in the last quarter of 2019. This situation resulted in an increase in IPC Phase 2 and Phase 3 outcomes. Nevertheless, the total rainfall in parts of west and northwest was adequately sufficient after the rainy season. This led to relative developments in crop and livestock production.⁴⁰

At the height of the short rains during the last quarter of 2019, several underprivileged households were slowly recuperating from the effect of preceding flooding or drought on their sources of food and revenue. Stressed (IPC Phase 2) results were evident in parts of

³⁷FEWSNET, 14 Jan 2019

³⁸GOV, 18 Apr 2019

³⁹FEWSNET, 28 Jun 2019

⁴⁰FEWSNET, 30 Sep 2019

southeastern, coastal, and central Kenya. At the same time, Crisis (IPC Phase 3) results continued to affect the majority in pastoral areas.⁴¹ By the end of 2019, IPC Phase 2 and Phase 3 results endured because of the steady recovery from the effects of drought, floods and landslides on food and revenue sources from 2018 to 2019. In the last quarter of 2019, Kenya witnessed considerable amounts of rainfall; however, Crisis (IPC Phase 3) continued to be common in pastoral areas.

In marginal agricultural areas, sustainable rainfall resulted in varied outcomes on crop production during the short rains, which frequently leads to a near-average production in sum in January 2020. Several areas experienced cropping conditions that were fairly normal. However, flooding and surplus soil moisture in some southeastern and coastal regions led to crop production that was below average. At the same time, revenue earned from long rains in 2020 was significant in ensuring that some areas experienced Minimal (IPC Phase 1) results. Nevertheless, Stressed (IPC Phase 2) was maintained in regions undergoing localized crop damages. In general, the amount of people at IPC Phase 2 was steady even after the long rains.

Studies by KFFSG in 2020 revealed that Stressed (IPC Phase 2) results were on the rise. And while the advent of natural calamities such as desert locusts caused a decrease in livestock and crop production, the reliable rainfall from March to May resulted in adequate yields in the majority of marginal agricultural regions. This situation was further encouraged by increased livestock production, resulting in a decline to the amount of people in need. It is for this reason that Famine Early Warning Systems Network (FEWS NET) projected an

⁴¹FEWSNET, 27 Nov 2019

extensive increase in Stressed (IPC Phase 2) results in many areas apart from Mandera and Tana River where Crisis (IPC Phase 3) was anticipated.⁴²

Since 1985, Kenya has been endeavoring to address famine management issue, starting with the layout of a drought contingency scheduling technique in Turkana, Kenya. In the early 1990s, this technique was expanded to other dry parts of the nation. In 1992, the “Emergency Drought Recovery Project” and its successor, the “Arid Lands Resource Management Project (ALRMP)”, progressively expanded the system. These temporary interventions founded on projects were being executed at a period when incidents of drought were prevalent and severe, directly impacting the livelihoods and food security of millions of people.⁴³

The repetitive dry season and related emergency has driven Kenya to make a move that thinks about the requirement for new speculation on drought management and the dire requirement for expanded co-appointment and lucidness in long haul and transient endeavors to advance flexibility. Recently, Kenya set up a "Nation Programming Framework" for finishing repetitive dry season crises (EDE) in the country. The structure consolidates the endeavors of the nearby networks, the Government of Kenya, common society, the private area, states in the Horn of Africa, and improvement accomplices.

In 2016, while acknowledging the desire to bolster the sustainability and feature of dry season the board, the Kenyan government set up the National Drought Management Authority (NDMA). NDMA is tasked with the responsibility of establishing structures that guarantee fewer effects of disasters caused by drought while also reducing the effects of climate change. The

⁴²FEWSNET, 8 Sep 2020

⁴³Goto, Aya, Evelyn J. Bromet, and Kenya Fujimori. "Immediate effects of the Fukushima nuclear power plant disaster on depressive symptoms among mothers with infants: a prefectural-wide cross-sectional study from the Fukushima Health Management Survey." *BMC psychiatry* 15, no. 1 (2015): 59.

NDMA gives a forum for sustainable planning and execution, alongside structures for coordination across various government organs and other stakeholders.⁴⁴

2.2.2 Pandemics/Diseases Trends and Response

It was observed that over the years, Kenya has been exposed to a variety of disasters such as, malaria, HIV/AIDs, COVID-19 among others. Epidemic events in Kenya recorded in the Centre for Research on the Epidemiology of Disasters (CRED) Emergency Events Database (EM-DAT) as from May/1964 to Mar/2013 include- Bacterial Infectious Diseases, Parasitic Infectious Diseases, Bacterial Infectious Diseases (Cholera), Viral Infectious Diseases (Rift Valley fever), (Cholera), Viral Infectious Diseases (Visceral leishmaniasis (Kala-Azar), Bacterial Infectious Diseases (Typhoid fever), (Aflatoxicosis), Bacterial Infectious Diseases (Meningococcal disease), Viral Infectious Diseases, Parasitic Infectious Diseases (Dysentery), Viral Infectious Diseases (Measles).⁴⁵

HIV symbolizes one of the highest general wellbeing challenges facing the Kenyan public. It was and still remains part of the main cause of death and colossal morbidities inside the populaces. The financial and social effects on the people, families and public economies are huge. A survey of the latest information highlights the pandemic's proceeding with danger yet additionally exhibits the remarkable effect of the projects and approaches set up to address HIV. Since Kenya recorded its first instance of HIV in 1984, the AIDS plague has advanced to be one of the focal obstructions to public wellbeing, prosperity and improvement. AIDS has extended destitution; eased back monetary development; diminished future; deteriorated other irresistible

⁴⁴Lim, Sungeun, Woongbae Lee, Soyoung Na, Jaedon Shin, and Yunho Lee. "N-nitrosodimethylamine (NDMA) formation during ozonation of N, N-dimethylhydrazine compounds: Reaction kinetics, mechanisms, and implications for NDMA formation control." *Water research* 105 (2020): 119-128.

⁴⁵Harrington, Mark. "From HIV to tuberculosis and back again: a tale of activism in 2 pandemics." *Clinical Infectious Diseases* 50, no. Supplement_3 (2010): S260-S266.

illnesses; and visited specific ills on influenced families, with the toughest impacts experienced by ladies and youngsters. An expected 49,126 individuals passed on AIDS-related causes in 2011, marginally more than 33% the yearly figures who kicked the bucket in 2002–2004.

Different social aspects like sex imbalance, sexual brutality, and hostile to HIV disgrace increment HIV hazard and weakness. The scourge has killed at least 1.7 million individuals in Kenya since it was found. In 2011, an expected 49,126 individuals in Kenya kicked the bucket of AIDS-related causes. The AIDS loss of life in 2010 addresses an almost 66% drop from the top in AIDS deaths in 2002–2004, when an expected 130, 000 individuals kicked the bucket every year. Pinnacle mortality followed top HIV frequency in Kenya by about 10 years, which one would expect to be given the around 10-year future of a recently tainted distinct in the pre-ART time. Today the scourge keeps on having extensive social, monetary, wellbeing and populace impacts. Notwithstanding the damages straightforwardly incurred on HIV-tainted people and the families in which they live, AIDS has had circuitous impacts that are genuine and significant on households and the entire of society. HIV disease brings about serious financial ramifications for influenced families.

Close assessment of the effect of COVID-19 on the sustainability of important services and income sources, to alleviate its impact on food and nutrition predicament continues to be significant. Kenya has so far reported more than 100,000 cases of Coronavirus since the first case in March 2020. At the same time, the number in Kenya as at February 2021 stands at 1,823. The linear statistics of COVID-19 cases in terms of deaths, active cases and reported cases continued to rise gradually from February to August when the curve began to flatten. However, as from October to 2020 to January 2021, the curve has shown minimal increase. The Ministry of Health has linked the increased infection rates to insufficient adherence to

safety measures put in place to curb the disease and scarce Personal Protective Equipment among frontline workers.⁴⁶

All the counties in Kenya have so far, reported cases of COVID-19 infections. Nairobi County leads in terms of the infection rates followed by other towns like Kiambu and Mombasa. This scenario is attributed to the high population in these areas. The counties of Mombasa and Nairobi continue to have the greatest attack percentages of corona infection, averaging 203 and 450 for every 100,000 people respectively. This figure is high in contrast to the country's average of 73.8. According to reports, cases of COVID-19 in refugee camps located in the ASAL regions of Mandera and Turkana increased substantially in August 2020.⁴⁷

President Uhuru Kenyatta declared in August 2020 that the nationwide night curfew (9 pm to 4 am) would be extended. Licensed hotels ended the ban on the sale of alcohol, though bars and nightclubs stayed empty for another 30 days. Subject to compliance with the COVID-19 health legislation, the number of people allowed to attend funerals and weddings had been increased, whereas the ban on the sale of second-hand garments has been suspended.

Furthermore, the President ordered the creation of a National Reference Group on COVID-19 to assess the effectiveness of the pandemic response.⁴⁸ Health experts advised, as per the president, that infections had attained a sustainable level, with recoveries being greater than infections. It is noted that hotspots such as Nairobi and Mombasa started to improve, although the authorities reported a change in cases in towns and rural areas. Positivity rates

⁴⁶Cooper, T. J., B. L. Woodward, S. Alom, and A. Harky. "Coronavirus disease 2019 (COVID-19) outcomes in HIV/AIDS patients: a systematic review." *HIV medicine* (2020).

⁴⁷Rayner, Geof. "Covid-19: One Part of an Ecological Public Health Crisis."

⁴⁸Union, African. "The state of Africa's population Report-2004 theme: Population and the poverty challenge." (2004).

across the country reportedly decreased from 13% to 8% between June and August. However, WHO warned against relaxing steps aimed at controlling COVID-19, noting that the decrease reported was not exactly a sign of a decrease in the spread of the virus at the national level.

According to the WHO, the decrease closely reflected patterns for the counties of Mombasa and Nairobi, accounting for 64% of the cases recorded, and further decrease correlated with many reasons, including reduced laboratory testing, limited touch tracing and departure from the nationwide testing strategy, because, according to the WHO, only low-risk communities were tested. Among the key problems found in the response was that health institutions continued to suffer from insufficient laboratory testing and medical services. Other challenges included the lack of PPEs for frontline health professionals and community volunteers, operational and organizational assistance for program development such as rapid reaction to new incidents, early detection kits, data monitoring and implementation. The long lag period for the transmission of laboratory findings, including at border points with Uganda, causes health care action to be delayed. As the transmission rate remains high, WHO has called on the public to conform to health guidelines and COVID-19 prevention rules.⁴⁹

After the COVID-19 pandemic, the usage of other critical health facilities had reportedly declined, with preliminary figures from the Ministry of Health showing a 30% decrease in outpatient services from March to May, and a 20% decrease in immunization programs, notably diphtheria-tetanus-pertussis (DPT3). The enrollment of those with chronic illnesses at healthcare facilities has reportedly decreased by 40%, raising questions about the effect of COVID-19 on the treatment of diabetes, TB, cancer, HIV and other diseases. A large

⁴⁹Servaes, Jan, and Rico Lie. "New challenges for communication for sustainable development and social change: a review essay." *Journal of Multicultural Discourses* 10, no. 1 (2015): 124-148.

increase in gender-based violence during the COVID-19 pandemic was further documented in the study. Respondents estimated that from March to June, over 5,000 rape victims reportedly obtained medical care at different health centers across the nation, three quarters of whom were youngsters.⁵⁰

Respondents noted that there had been a 30% rise in cases of violence since the start of the COVID-19 outbreak in certain counties, including Kisii, Kisumu, Wajir, Lamu, Nandi, Homabay and Turkana, according to data prepared by the Ministry of Health during the regular state COVID-19 briefing. Increased gender-based violence has been a significant issue in Kenya since COVID-19 containment measures were introduced. On 6 July, the President directed the National Crime Research Centre to examine the increasing cases of gender-based violence and the "serious issue of girl-child disempowerment".⁵¹

The Health Ministry stated that the cholera epidemic that afflicted the counties of Marsabit, Turkana, Murang'a, and Wajir in 2021 is under management, including the fourth wave recorded since June in Turkana. In five counties, measles incidents are still active: Kilifi, Garissa, Tana River, West Pokot, and Wajir, with a total of 512 recorded cases, including 49 active cases and two deaths, according to the Ministry of Health. Since August 2020, at least 65 additional cases have been registered. Many of these measures in the impacted counties by the County Health Departments include touch tracing, storage of appropriate doses of Vitamin A supplements, rubella and measles vaccines, maintenance of cold chain facilities, sensitization of community and health staff, and case management.⁵²

⁵⁰Ibid pp. 124-148.

⁵¹Rayner, Geof. "Covid-19: One Part of an Ecological Public Health Crisis."

⁵²Cooper, T. J., B. L. Woodward, S. Alom, and A. Harky. "Coronavirus disease 2019 (COVID-19) outcomes in HIV/AIDS patients: a systematic review." *HIV medicine* (2020).

The Government of Kenya focuses on wellbeing as an essential area in its public improvement plan. In the public long haul advancement strategy, laid out in Kenya Vision 2030, the public authority focuses on making key interests in wellbeing administration arrangement to improve the personal satisfaction of its populace. In Kenya Health Policy 2014-2030, which tries to accomplish universal health coverage (UHC) by stretching out significant wellbeing administrations to networks out of luck, further assumptions were explained. In 2013, Kenya moved medical care administrations to 47 semi-self-sufficient areas—shaped corresponding to the 2010 new constitution, expanding provincial independence for wellbeing administrations of the executives.

These and other government strategies highlight the need to resolve emerging health disparities as a road to quicker and more sustainable development. Kenya has made efforts in improving multiple health issues, mainly those associated with critical infectious diseases. Lower respiratory infections, vaccine-preventable illnesses, and diarrhea have declined together with maternal diseases. The Kenya Expanded Programme on Immunization endorses childhood vaccination for tuberculosis, polio, diphtheria, whooping cough, tetanus, measles, hepatitis B, *Haemophilus Influenzae* Type B, pneumococcus, and rotavirus.

2.2.3 Terrorism Trends and Response

Assaults Incidences of terror attacks in Kenya are not new marvels. Though, the recurrence of late dread assaults has brought into the spotlight the greatness of the assaults. An outstanding sharp increment has been seen since the Kenya Government dispatched a military hostile against Al-Shabaab aggressors named as "Operation LINDA NCHI" in October 15, 2011. Like the bodaboda (engine cycle and bike) mishaps, dread assault is presently an arising disaster.

On January 15, 2019, five Somali aggressors raged the Dusit-D2 hotel and business complex in Nairobi where they started shooting and detonated a bomb. The 19-hour assault took at least 26 lives and wounded a further 28. As the upscale building housed the offices of several multinational firms, the attack was directed at affluent Kenyans and foreigners. One American and British national were among the victims, apart from sixteen Kenyans. Security personnel killed the five terrorists, with a further 12 perpetrators being held for interrogation. Al-Shabaab assumed responsibility for what happened, claiming that it was a reaction to the U.S decision by the former U. S President Donald Trump to recognize Jerusalem as Israel's capital.⁵³

As Kenya endures to endorse U.S. drone attacks against Al-Shabaab, it has been reviewed that the militants have increased the rate of their attacks across the nation, especially on the Somali frontier of Kenya. In addition, Kenya, and Nairobi in specific, hosts two U.N. agencies' global high-value targets to several global media organizations that Al-Shabaab may threaten to gain greater coverage swiftly.

Al-Shabaab insurgents conducted a 15-hour assault on Garissa University in Kenya on April 2, 2015, executing 148 students and professors. Based on their Religion, the Islamist movement threatened victims and suggested that the attack was an implicit consequence of the military involvement of Kenya in Somalia. The attack was the deadliest mass shooting in the world since the Al-Qaeda explosions of 1998. Al-Shabaab immediately assumed responsibility for the massacre, proclaiming: *"Today our Mujahideen brothers succeeded in carrying out a successful operation in the town of Garissa. We informed the Kenyans that they should withdraw*

⁵³Chumba, Christopher. "SECURITY-BASED DIPLOMACY INFLUENCING TRANSNATIONAL TERRORISM MANAGEMENT BETWEEN KENYA AND SOMALIA." PhD diss., MMUST, 2016.

their military from Somalia. They chose not to listen to us, so this is our reply to them." The University of Garissa is 90 miles from the border with Somalia.⁵⁴

The insecure Kenyan-Somali border enables Al-Shabaab insurgents between the two regions to move freely. Garissa County also shelters refugees in Dadaab, with more than 336,000 Somalis, the largest refugee centers in the globe, rendering the region particularly susceptible to Al-Shabaab assaults.⁵⁵ Not instantly responding to the assault, the Kenyan government established a premeditated airstrike towards Al-Shabaab encampments in Somalia a few days later. The state also cracked down on individuals and businesses accused of offering Al-Shabaab with economic assistance and revealed that it was looking to construct a wall to restrict the flow of Al-Shabaab militants along the Kenya-Somalia border. Wall construction started midway through 2015.⁵⁶

The second largest Al-Shabaab attack in Kenya occurred in September 2013, when militants targeted Nairobi's Westgate shopping centre. Al-Shabaab said the attack was in retaliation to Kenya deploying soldiers in support of the U.N.-backed government to neighbor Somalia. On September 21, about 10 and 15 gunmen raided the mall, senselessly firing and moving shop to shop to capture about 36 captives. The militants aimed specifically non-Muslims and ordered Muslims to run before attacking other captives, according to eyewitnesses⁵⁷ Security forces tried to regain control of the center on September 24, and the Kenyan government declared an end to the hostage situation. Security forces reportedly killed five terrorists and detained 11 persons suspected of being involved. Not including the gunmen, during the siege, 67 individuals

⁵⁴ Ibid pp.100-102

⁵⁵Rich, Paul. *Research on terrorism: trends, achievements & failures*. Psychology Press, 2004.

⁵⁶Aronson, Samuel L. "Crime and development in Kenya: Emerging trends and the transnational implications of political, economic, and social instability." *Inquiries Journal* 2, no. 09 (2010).

⁵⁷Mogire, Edward, and Kennedy Mkutu Agade. "Counter-terrorism in Kenya." *Journal of Contemporary African Studies* 29, no. 4 (2011): 473-491.

were murdered and 175 were seriously hurt. The U.S. hunted down and killed Adan Garar, the orchestrator behind the assault, based in Somalia, in 2015.

In September 2016, Kenya unveiled its Strategic Plan to Combat Violent Extremism (CVE). In favor of counter-terrorism initiatives, President Uhuru Kenyatta pledged that the initiative would leverage state, private sector, and civil society resources, and would prioritize de-radicalization instead of military strategy. The initiative is led by director of the Kenya National Counter Terrorism Center (NCTC). Three county governments have also formed their own CVE policies for Mombasa, Kwale and Lamu.⁵⁸

Kenya declared in March 2017 that it had established a committee to direct actions to limit and fight violent extremism. The Inspector General of Police and all the principal secretaries were confirmed to be included in the party. The effort was dubbed a "*cross-cutting, multi-agency national campaign*" by a government spokesperson and said it would incorporate "*preventative, reduction, and rehabilitative strategies*" to support current counterterrorism initiatives. The committee is working under the CVE policy of the country launched in September 2016.⁵⁹ The NCTC started collaborating with the Ministry of Education of Kenya on an education programme to tackle violent extremism in 2018. During the same year, Kenyan intelligence specialists observed that the military strategy of Kenya had contributed to a gradual decline in the criminal behavior of Al-Shabaab, but that online radicalization had increased at the same time. The Countering Violent Extremism Research Center, an online archive to aid CVE research, was jointly launched in September 2018 by the Institute of Development Studies and the Centre for

⁵⁸Otiso, Kefa. "Kenya in the crosshairs of global terrorism: fighting terrorism at the periphery." *Kenya Studies Review* 1, no. 1 (2009): 107-132.

⁵⁹ *Ibid* p.10

Human Rights and Policy Studies (CHRIPS). The resource financed by the government monitors terrorist incidents in Kenya and outlines successful programming for CVE.⁶⁰

Critics argue that, because of weak coordination between the military and the police, the Kenyan government was unable to react appropriately and promptly to the assault. For instance, during an assault, Kenyan Special Forces units fired at a police unit commander in a friendly-fire event. Corruption has also hampered the approach of the government. Video footage captured during the attack showed troops looting shops for merchandise in the center. The assault was the worst in Kenya since the al-Qaeda bombing of the United States embassy in Nairobi in 1998.

2.2.4 Fire Disasters Trends and Response

Flames mishaps have the most assorted reasons for all the calamities. Subsequently they happen much of the time going from harm of a solitary thing to enormous regions like woods or horticultural terrains. Fierce blazes are extremely regular in ASALs. Though, the level of the annihilation depends on the kind of fire (feature of the substance burning down), the environmental conditions (wind), and the efficacy of the response. As long as fire is under control, it is very useful to man but once out of our control, it causes massive destruction. Kenya has not been an exception to fire disasters. For example, at the original African Heritage House in Nairobi in 1977, an electrical failure in the telephone network ignited an inferno that brought down the entire garden café, shops, hotels, exhibition, and workshops. The loss of preserved African culture was immeasurable, in addition to the total destruction. The Langoni fire in Lamu that happened in 1982 was among the deadliest fire catastrophes at the time. This fire, however prompted not very many passing, it left 4,000 individuals destitute and annihilated organizations.

⁶⁰Fletcher, John, and Yeganeh Morakabati. "Tourism activity, terrorism and political instability within the Commonwealth: The cases of Fiji and Kenya. *International Journal of Tourism Research* 10, no. 6 (2008): 537-556.

In 2009, Lamu additionally had another fire episode that left 80 % of the whole settlement consumed and left more than 2,500 individuals destitute. Fire calamities have likewise been recorded in learning establishments some of which are because of pyromaniac assaults or electrical disappointment. For example, pyromaniac lit fire in Bombolulu Girls High School in Mombasa in 1998 annihilating property and murdering 25 young ladies. On March 26th 2001, the Kyanguli Mixed Secondary School fire related crime fire stunned numerous in the country. A school dormitory was set on fire by arsonists prompting loss of around 68 understudies. Despite the fact that the dormitory had two ways out, when of the misfortune, just one exit was operational. The other exit was bolted and keys lost.

An explosion triggered by an exposed generator destroyed the Nakumatt Downtown Supermarket in Nairobi in January 2009, resulting in the loss of scores of lives and property worth millions. The security and the administration closed the main doors during the event to avoid theft. This led to more deaths. At least 29 individuals were reported dead after the blaze, with 47 missing, with a probability of being burned beyond notice. Ironically, the supermarket was at a very close proximity to Nairobi's public fire station (approximately 100 meters away).⁶¹

In February 1, 2009, not long after the Nakumatt misfortune, a street mishap at Sachang'wan retail centre in Rift Valley that elaborate a fuel big hauler prompted deficiency of 120 lives. This was after inhabitants of Sachang'wan raced to redirect a portion of the 47, 000 liters of fuel carried by a big hauler. A few residents remained at a protected closeness spectating. Lamentably, when the big hauler detonated, the flares caught the individuals who were siphoning and the observers. The occurrence happened again around the same time in Kapokyek in Kericho. The emergency, which occurred in August killed around 45 regular people. The Sinai Pipeline

⁶¹ Ibid p. 50

Fire misfortune happened in Mukuru-Sinai ghetto in Nairobi in September 12, 2011 when a flawed pcv valve in a gas tank close by spilled around 19 million cubic meters of petroleum emptied straightforwardly through the suburb into an uncovered channel pipe. The fiery blaze leveled many ghetto shanties and executed around 120 individuals with 116 individuals being hospitalized. The specific complete number of deaths stays an estimate because of the crowding in the slum. In March 2009, in a different pyromania assault, timberland fires obliterated around 25,000 hectares of Mau backwoods. Later in January 2012, Kiptagich space of Western Mau Forest burst into flames, annihilating around 1500 hectares.

In early 2009, a progression of occasions featured the vulnerability of Kenya to flames. The primary episode included a general store in midtown Nairobi which burst into flames on 28 January 2009. On 31 January 2009, less than 250 km from Nairobi, the next incident happened in Sachangwan located in Nakuru County, when a long-haul fuel truck with an estimate 10,000 liters of combustible petroleum products toppled, melted its contents and burst into flames.⁶² In response to these occurrences, a total of 391 personnel and volunteers were mobilized by the Kenya Red Cross Society (KRCS) to locate missing persons, give immediate aid, retrieve mortal remains, as well as provide psycho-social and technical assistance. During the whole operation, KRCS supported over 70 individuals with various degrees of fire-related burns and retrieved over 80 remains of burned individuals.⁶³

Volunteers and people from the Kenya Red Cross Society reacted immediately when the fire started on 28 January 2009 at Nakumatt supermarket. The Nairobi Branch KRCS unit rushed to the scene minutes after the fire began and was quickly joined by the crisis response from the

⁶²Obiri, John F. "Invasive plant species and their disaster-effects in dry tropical forests and rangelands of Kenya and Tanzania." *Jàmbá: Journal of Disaster Risk Studies* 3, no. 2 (2011): 417-428.

⁶³ Ibid pp. 40-41

KRCS main office in Thika and Karen-Langata branches. The first reaction included the transfer of victims from the incident to Kenyatta National Hospital, as well as the provision of water to rescue workers provided by relatives and family, people from First Aid units, and well-wishers, all of whom were stunned by the disaster.⁶⁴

Respondents indicated that KRCS maintained on-site activity for the next 24 hours to give assistance with identification, therapy, and support. In the early phases of the incident, a total of 220 volunteers and personnel were engaged. The amount was narrowed down to 43 volunteers who, until 4 February 2009, assisted with rehabilitation, identification and counselling services. The number of fatalities in the blaze was 29, while the trauma suffered during the fire resulted in 14 hospitalizations.

A fire has once again razed stalls and buildings at the populous Gikomba Market early Saturday 01 February 2020 morning.⁶⁵ Merchandise of unknown value was destroyed in the fire that started at around 4 am. County officials launched investigations to establish the cause of the fire. Nairobi County Emergency CEC Ann Mwenda said firefighters from the county managed to contain the fire. She cited the region's intractability as a serious barrier to containing the fires. *"At least there were no casualties and injuries. It was a decent reaction and I really applaud the emergency management team for their prompt action along with the Kenya police, DCC area, and the MCA of the locality,"* she said.

⁶⁴Ngunyi, Elizabeth W. "Community organizing in achieving resilience to disasters: the case of fire disaster in Gikomba market." PhD diss., University of Nairobi, Kenya, 2011.

⁶⁵Obioji, Josephine Nneka, and Kierian Tochukwueze. "Fire Fighting Preparedness in Idemili North of Anambra State." (2019).

2.2.5 Flood and Landslide and Response in Kenya

Floods, very much like dry seasons, are repetitive marvels distressing numerous sections of the country. Notwithstanding, the most exceedingly awful influenced territories are the low-lying swampy plots in Lake Victoria Basin specifically Budalangi and the Kano Plains and the Tana River floods. The resulting impacts are loss of lives, foundation, food stores and disintegration. Lately, scenes of metropolitan flooding have been seen around there and Narok town Occasional floods are additionally knowledgeable about dry terrains where weighty tempests top off the dry stream valleys causing streak floods downstream. Such scenes are normal in Turkana, Samburu and eastern Kenya.

The 1997/98 El Niño floods were the most extraordinary floods throughout the entire existence of Kenya. Over 1.5 million individuals were influenced in various sections of the country. Torrential rain causes landslides and floods, and is popular in areas with steeps and hills. They arise from the degradation of the structure of the slope due to higher soil humidity.⁶⁶ They are frequent in the western and central regions of Kenya. Landslides are not common and are largely unpredictable. In many instances, it affects a few people. Nevertheless, they result in the loss of lives and livelihoods of the people impacted. In 2000, for example, approximately 1,800 people were unconvinced by landslides in Nandi, Murang'a and Meru Central. Five deaths were reported during the 2004 Landslides in Nyeri, Othaya and Murang'a.

Numerous components and conditions add to the event of floods in Kenya. The nation has in the past experienced glimmer floods, stream floods and waterfront floods. In certain situations, flooding could result from human interaction with water-fields, drainage basins, riparian zones

⁶⁶Suda, Collette A. "Natural disaster preparedness, environmental degradation and sustainable development in Kenya." (2000).

and watersheds. In the river area, floods have persisted even with average rainfall because of surface water accumulation from deforestation, inadequate agricultural practices and upstream soil erosion. After heavy downpour, Kenya is plagued by floods. Scores of people in the lowlands are forced to migrate uphill.⁶⁷ The affected persons are usually from the regions of Tana River, Nyanza and Western. However, slum dwellers in towns like Nairobi who have erected informal structures near rivers are not spared. In Kenya, flood records reported as the largest, most prevalent and most extreme floods occurred in 1962 and 1998. The flooding was related to the El Nino effect. El Niño is a disturbance of the tropical Pacific environment of the ocean environment that has a significant effect on global weather. In certain regions it may contribute to increased precipitation and drought, altering the usual weather pattern.⁶⁸

Various places in Kenya experience river floods each year. The vast majority of these floods are moderate at the beginning. Furthermore, they are entirely unsurprising. Certain topographical areas experience more extreme floods than others. Some of the instances include the Kano fields in Nyando District and Nyatike in Migori District, Nyanza Province. Budalangi in Western Province likewise falls under this classification. The floods experienced in the featured places result from the flood of waterway Nzoia and the lower portions of Tana River. A few areas encountering steady yearly flooding incorporate Nyanza Province (Kano fields, Nyakach region, Rachuonyo and Migori), Western Province (Budalangi), Coast Province (Kilifi, Kwale and the Tana River Basin), NEP (Garissa, Wajir, and Ijara) and Urban Centers like Nairobi, Nakuru, Mombasa, and Kisumu. The lower portions of the Tana River District likewise experience floods yearly.

⁶⁷Shilenje, Zablon W., and Bob A. Ogwang. "The role of Kenya meteorological service in weather early warning in Kenya." *International Journal of Atmospheric Sciences* 2015 (2015).

⁶⁸ Ibid



Figure 1: Floods in Busia, Kenya. (Source: Government of Kenya, 2020)

Heavy rainfall in Kenya increased in 2020, resulting in death, dislocation, flooding and earthquakes. After the Nzoia River broke out its banks in May 2020, at least 40,000 people became jobless and homeless.⁶⁹ An estimate 230,000 individuals, including more than 116,000 displaced persons were affected, according to the Red Cross Society of Kenya, since the beginning of the long rainy season. Flooding was confirmed by the state's National Disaster Operations Center; more than 75% of Kenya counties experienced landslides, particularly in the Coast, Rift Valley, and Central regions.⁷⁰ During the month of May in parts of the western, coast, central and valley of Rift, the Kenya Meteorological Department had predicted above-average rainfall that would lead to further overflow. High rainfall increased the likelihood of health crises and led to more desert locust reproduction in Kenya.⁷¹

⁶⁹Zachary Getenga,. "Intensification of agriculture as the driving force in the degradation of Nzoia River basin: the challenges of watershed management." (2007).

⁷⁰Shilenje, Zablon W., and Bob A. Ogwang. "The role of Kenya meteorological service in weather early warning in Kenya." *International Journal of Atmospheric Sciences* 2015 (2015).

⁷¹ *Ibid* p.103

2.2.6 Accidents in the Transport Sector

In spite of endeavors by the public authority to decrease street mishaps, the number is by all accounts increasing causing more fatalities and loss of lives. Measurements show that more than 13,000 street mishaps happen every year, bringing about a normal of around 3,000 casualties and in excess of 11,000 wounds. The most defenseless against street mishaps are the middle class individuals who to a great extent utilize public help vehicles and two-wheeled methods for transport which are the greatest reason for road deaths in Kenya. Measurements demonstrate that about 46% of the road mishap deaths are from the walkers, cyclists and riders of mechanized bikes and their travelers. For example, in May 2010, around 144 people on foot kicked the bucket from road mishaps while around 189 supported genuine wounds. Bodaboda crashes are an arising misfortune in Kenya today. For each 100 bodaboda crash casualties, three lose their lives. A normal yearly passing pace of a base 500 individuals represents 14 to 16 percent of the combined measure of road demises. For instance, in 2012, there were 415 deaths associated with bodaboda transportation. The transport of surplus travelers, pace, resistance with road security enactment, inappropriate overtake and an absence of data concerning expressway codes are a portion of the explanations behind the high paces of mishaps. With these mishaps, the socio-economic misfortune is colossal particularly in wellbeing and labour areas. Generally, gauges show that Kenya loses roughly 45 billion shillings barring the genuine death toll because of street mishaps.

Kenya as a nation, being positioned as a lower middle-income, has encountered an increment in Road Traffic Accidents (RTAs) in the course of the most recent decade. This has to do with urbanization and expanding mechanization in the country. Being a low pay economy, road infrastructure advancement is as yet slacking just as strategy challenges in following the worldwide safety guidelines. As indicated by National Transport and Safety Authority (NTSA),

the body accountable for transport in Kenya, the nation recorded 3572 fatalities, 6938 genuine wounds and 5186 slight wounds as at December 2019. The recorded numbers have been probed by different parties. The overall clarification on this needs to do on the assortment of information and the arrangement of mishap information. NTSA apparently receives a dead-on-the-spot for casualty report; no follow up is finished with clinics to figure out which wounds prompted demise. This is in opposition to the global suggested standard of announcing which thinks about Road Traffic Disasters (RTDs) inside a 30-day window.

The Kenya police effectively screen crazy driving, over speeding and different acts of neglect that influence road mishaps. Traffic police perform irregular "Break down" on vehicles that do not adjust to the road wellbeing norms stated by the laws. By utilization of speed-traps and designated spots, the traffic conduct is adjusted however the impacts are gentle in zones with no appropriate police oversight. According to the general population, crackdowns have been very problematic to suburbanites who have tight itineraries. It is significant that the methodology utilized in the nation is generally designated as a spot framework with few instances of patrol. The conclusiveness of designated spots may have disadvantages with regards to requirement of wild driving conduct outside of the checked zone.

The City Council of Nairobi has continued to institute measures to improve its road network. This has been done through development of new roads, instituting traffic calming measures including installation of traffic signals and improvement of junctions and other facilities. All bottlenecks to Non-Motorized Transport (NMT) movements including illegal structures within road reserves, blocked alleys between buildings, and hoarded walkways under canopies of existing buildings and those under construction should be removed. Further, it is necessary to have routine maintenance of existing roads and enforcement of the Traffic Act and

City Council of Nairobi (CCN) by-laws relating to road traffic management. Had there been an autonomous traffic police unit specifically in charge of traffic within the city of Nairobi, it would work with the CCN law-enforcement personnel to facilitate sustenance of order. This unit would also be in charge of ensuring security and safety of First Service (FSV) commuters and NMT users.⁷²

2.6.7 Structural Collapse and Response in Kenya

Disasters related to breakdown of structures have been on the ascent in the past in Kenya turning out to be demise traps and causing tremendous monetary misfortunes. For example, on January 23, 2006, a five-story building under development in the focal business area in Nairobi, Kenya fell, killing 11 and catching more than 200 laborers under the garbage. Different occurrences including breakdown of structures include: October 2009 and January 2010 around there, June 2011 in Embakasi, June 2011 in Langata Southern Bypass, September 2011 in Luanda, June 2012 in Mlolongo along Mombasa Road (5 individuals slaughtered and 10 harmed), January 2013 in Nairobi CBD (11 individuals executed and 200 caught), December 17, 2014 in Nairobi (1 individual murdered) and May 12 2015 in Mukuru Fuata Nyayo space of South B (9 individuals executed). Such disasters happen because of primary disappointment.

In Kisumu city, a structure near the Imperial Hotel tumbled down when laborers were planning to go to their homes. A large portion of the casualties were day workers and the development chief was said to have fled promptly the episode happened. Endeavors to contact him stayed purposeless as his telephone was off after the occurrence. Numerous individuals were as yet stuck in the rubble, yet Kenya's Red Cross group, the Kenya police and firemen remained up the entire night to proceed with rescue activities.

⁷² Provincial Commissioner, Nairobi Province, 2003

Another episode happened in which a 4-story structure that was somewhat underutilized however under development in Mlolongo, along Mombasa Road, fell in on Saturday ninth June 2012, prompting the demise of five individuals and injury of ten others. It took the Fire Services Unit, the Kenya Police and different partners a short-term search and rescue activity where by five bodies were at long last recovered from the rubbles and ten harmed individuals safeguarded and taken to the Hospital. The activity required just about a day and a half. In Huruma, Nairobi County on 6th May 2016, respondents noted that a six-storey building with poor structural integrity constructed on a riparian land collapsed into a ‘pancake’ killing about 52 people, and took seven days to complete the rescue process. The respondent reported that the owner of the building was charged with manslaughter for negligence; however, a systemic failure was also to blame.



Figure 2: Collapsed building in Huruma in Nairobi, Kenya. (Source: Nation Media Group, 2016)

2.3 National Disaster Management System

Disaster management in Kenya is facilitated by the National Disaster Operations Center. It supervises the disasters anticipation, arranging, moderation, and reaction. The center was set up on 21st January 1998 after the unfriendly impacts of El Nino downpours. It is the point of convergence for organizing crises and catastrophes in the country. Officials drawn from different services/branches of the public authority run it on a 24-hour premise. The Ministries liable for Agriculture and Rural Development, Natural Resources and Environment, Trade and Industry, Health, Roads and Public Works, Transport and Communication, Information, Finance and Planning, Education and Energy are associated with catastrophe the board. Kenya has existing establishments managing calamity related exercises. In any case, they don't work inside a planned strategy system. A new arrangement traces a proficient, adaptable and composed framework for overseeing catastrophes, to limit misfortunes and coming about interruptions on the populace, economy and climate.

It was seen that the vast majority of the catastrophe reaction activities in Kenya have in general been specially appointed, clumsy and momentary measures, predominantly as crisis help administrations to the most exceedingly awful influenced territories. These reactions have not been manageable as they have managed outward manifestations and given little consideration to the hidden reasons for the issue. For instance, arrangement of transitory safe house to uprooted families and the obtainment and conveyance of alleviation supplies to the influenced populaces, establishment of Famine Relief Committees, and offers to givers for philanthropic guide.

Nevertheless, disaster and public health management should be incorporated into current sustainable development programs, with emergency preparedness and recovery interventions. The new passed constitution frames the origin board for an organized arrangement of catastrophe

by the executives. It gives a basic chance to compassionate and improvement partners to take part in this cycle and help shape vital planning. Furthermore, the establishment of Kenya's new constitution-based county structures provides impetus for concerted participation in the sub-national market. Partners are also working to comply with other national policies and programs such as the recently adopted IDP bill, the draft Disaster Risk Management Policy and the Emergencies Ending Drought Movement.⁷³ In addition to planning for urgent, acute requirements, Kenya's Humanitarian Response Plan and multi-annual Strategy gave stakeholders an incentive and a framework to incorporate the resilience into humanitarian programs. This has assisted develop local and national and emergency preparedness and response capabilities. The year 2013 marked the conclusion of the multiannual plan and the shift from growth frameworks into longer-term initiative.⁷⁴

The Humanitarian Emergency Response Plan 2013 involves 116 initiatives from over 50 entities. It calls for humanitarian relief of \$743 million. The Government has established this National Disaster Management Strategy in order to institutionalize disaster-control systems in attempts to lessen risk vulnerability. Recent developments in disasters, successive studies by the Intergovernmental Panel on Climate Change (IPCC) and a recent detailed environmental recognition survey throughout the country all underline the critical role of climate change in any effective, prepared, and coordinated National Disaster Management Strategy. The strategy reiterates preparedness for disaster risk mitigation by government, groups and other stakeholders. This policy is proposed to identify and reinforce networks, strategic alliances, disaster management organizations, and major disaster risk mitigation in development to enhance the fortitude of susceptible groups to deal with potential catastrophes.

⁷³Poncelet, Jean Luc. "Disaster management in the Caribbean." *Disasters* 21, no. 3 (1997): 267-279.

⁷⁴Siriwardana, Chandana SA, G. P. Jayasiri, and S. S. L. Hettiarachchi. "Investigation of efficiency and effectiveness of the existing disaster management frameworks in Sri Lanka." *Procedia engineering* 212 (2018): 1091-1098.

The Ministry of interior and National Coordination manages Disaster Risk Mitigation programs proactively on all levels, within a cohesive policy context. Disaster risk management encompassed a complete spectrum of planning, relief and recovery, mitigation and control. The aim is to improve and sustain susceptible communities' tolerance to hazards by diversifying their standards of living and coping strategies. This means moving from short-term to long-term development relief approaches. The strategy will help to protect life and alleviate misery by providing appropriate early warning insight into possible disaster threats. Moreover, it aims at alleviating suffering by providing timely and appropriate response mechanisms for disaster victims.

There are other existing techniques pointed toward adapting up to particular sorts of calamities in Kenya. For example, Kenya's reaction to HIV is guided by an essential arrangement that expects to fit and adjust the HIV-related exercises of different accomplices and partners. Composed by the National AIDS Control Council, the HIV reaction expands on the hearty commitment of common society and individuals living with HIV. The National AIDS and STI Control Program inside the Ministries of Health direct the main part of HIV-related administrations in Kenya. The nation has built up a progression of execution pointers to drive advance and advance responsibility in the reaction. Information on HIV status is the foundation of Kenya's reaction to the pestilence. In 2010, more than 5.7 million individuals were tried for HIV through a mix of channels, including testing focuses, provider-initiated counselling and testing in wellbeing settings, and time-restricted operations.

2.4 The National (Disaster) Operations Center

The public authority of Kenya articulated a National Policy on Disaster Management and disaster hazard reduction. This strategy targets tending to the expanding occurrences and

development of catastrophes. Presently, the Ministry of Interior and Coordination of National Government gives the arrangement and standard working methods (SOPs) for calamity management in Kenya. The passageway of the present new government and the regressed arrangement of administration is an incredible test. This is on the grounds that new services have been set up, some combined and obligations changed. This may cause an extraordinary mix in the administration and coordination of calamity exercises since extra district units have been made. Nonetheless, there is a solitary public disaster activities center, overseen as an office at the public level.

The National Disaster Operations Center, (NOC) was set up on 21 January 1998 after the unfavorable impacts of El Nino downpours. Its fundamental design is to organize catastrophe management in the country. It is monitored by officials drawn from different Ministries/Departments of the Government. The center runs on a day in and day out basis. A portion of its exercises incorporate the coordination of all calamity exercises, previously, during and after events and educating all partners regarding the public disaster alternate courses of action. Aside from this, it is likewise commanded to settle on key choices for the National Disaster Coordination Committee (NDCC), start projects and guarantee that particular jobs are sent and completed by the Ministries and Departments to whom they are coordinated. They set up every one of the inventories for public assets, coordinate for the freedom of help exercises from outside the nation, plan media programs for public data and direct a yearly assessment of tasks equipped towards catastrophe management, relief and control.

It is a necessity for the National Disaster Operations Center to give every daily circumstance reports to every single united partner and partake in dynamics to focus on depended activity during crises inside various areas of the country. The directorate of National Disaster

Operations Center, (NOC), has assumed a critical part in overseeing cataclysmic events in the country. For instance, it has mediated in dry season circumstances by starting calamity control through set up channels. It has additionally taken an interest in definition of procedures for the executives of dry season disasters.

It has utilized a system dependent on philanthropic standards and standards of Civil – Military Coordination (CMCoord) inside the dry season stricken Northern areas part of Kenya. It figured out how to send three On Site Disaster Coordination Teams to Wajir, Mandera, Marsabit and Moyale regions for compassionate exercises, composed help supplies through Road and Air development and worked together with NGOs and worldwide networks.

2.5 The Kenya Meteorological Department

The Kenya Meteorological Department, (KMD) is a public service in the Ministry of Environment, Water and Mineral Resources. The KMD is liable for the association and operational administration of meteorological services in Kenya. It likewise screens, creates and gives warnings, cautions and alerts to the overall population in regards to inescapable occasions related with catastrophic events. The current administration framework has made 47 regions in Kenya. As per the KMD public help structure, every County is driven by a County Meteorological Officer or Meteorologist. The official from KMD is a vital character in the County Disaster Management board.

This board of trustees contains specialized people and agents from various government services, the regional organization, other improvement parties inside the County, Red Cross authorities, delegates of the local area based associations, and legislators among a few others. The police force additionally is a basic part of this essential board of trustees. KMD is currently

thinking of an incorporated arrangement of Alerts creation and spread. The Regional Specialized Meteorological Center (RSMC) assists the KMD with observing and issuing Early Warning System (EWS) correspondences identified with meteorological, Tsunami and Seismic EWS, Flood, EWS in the Health Sector just as EWS in Agriculture and Food Security.

2.6 Summary of the Chapter Key Findings

There has been an overall expansion in mortality and grimness rates because of disasters that strike the land. The deficiency of jobs, domesticated animals, obliteration of infrastructure, and socio-economic debasement are among the few different impacts that have been noted in changing extents. In fact, Kenya is a profoundly weak and bare part to a few disaster emergencies which are being exacerbated by environment inconstancy and change. The measure of individuals influenced by these cataclysms is consistently rising. The Government of Kenya (GoK) additionally detailed a ten-year plan in September 2011 to determine repeating drought circumstances in Kenya. The system paper was introduced during a worldwide meeting, "The summit on the Horn of Africa Crisis" with the topic "Ending Drought Emergencies: A pledge to feasible arrangements". Notwithstanding, a significant part of the endeavors to lessen disaster hazard in Kenya are divided among various partners inside the Government, UN, NGOs and the scholarly world. This leaves a lot of chance for creating multi-sectoral multi-disciplinary methodologies. It is in such a manner that the public conference means to give a setting to advancing integrative organizations toward combination of thoughts for all encompassing answers to lessen the effects of catastrophe on the lives and vocations of individuals of Kenya.

CHAPTER THREE

ROLE OF CIVIL DEFENSE IN DISASTER MANAGEMENT IN NAIROBI COUNTY, KENYA

3.1 Introduction

This chapter is broken into the following subheadings: overview of civil defense, the military (civil defense) and its involvement in disaster management, the military (civil defense) and disaster management in Kenya, Kenya military (civil defense) key activities in disaster management and finally the conclusion/chapter summary.

3.2 General Overview of Civil Defense

Civil defense in war or national defense entails all non-military steps taken to mitigate loss of life and property incurred by adversary activities..⁷⁵ It covers security against threats by traditional bombs or missiles, biochemical agents and atomic warheads. The targets of Civil Defense are to save lives, to limit loss of property, to keep up progression of production and to keep high up the confidence of individuals. It was noticed that during seasons of war and crises, the Civil Defence association plays an essential part of guarding the hinterland, supporting the armed powers, assembling the residents and aiding common organization. Several nations across the globe have civil defense structures that defend civilians from military aggression and provide emergency services following widespread catastrophes. In many nations, common protection is an administration overseen and regularly volunteer-staffed association. An efficient Civil Defense program will utilize existing offices and administrations, for example, the police and local groups of fire-fighters of urban communities and towns. In any case, in accomplishing a condition of

⁷⁵Menya, Alice A., and O. A. K' Akumu. "Inter-agency collaboration for fire disaster management in Nairobi City." *Journal of Urban Management* 5, no. 1 (2016): 32-38.

preparation for any consequence, it will have numerous new exercises for which there isn't regularly an association or plan. Also, every period of a sound Civil Defense program would be equipped to the conceivable need in all regards an unexpected origination in comparison to exists in peacetime exercises in any field.

With developing urbanization, metropolitan danger administration is arising as a significant concern. The possibility of metropolitan flexibility, be that as it may, is new to most urban communities. Calamity hazard management, a vital component of metropolitan flexibility building, remains prevalently a Civil Defense issue. Common Defense is the point of convergence organization on calamity hazard issues in 14 out of the 22 part conditions of the Arab League, particularly at the nearby level. There has been remarkable advancement at the public level to improve coordination instruments for multi-sectoral commitment in a disaster hazard management. Different nations have set up explicit elements for multi-sectoral coordination, including Algeria, Djibouti, Egypt, Lebanon, Morocco, Somalia and the United Arab Emirates.

In other nations however, the National Civil Defense Councils stay the essential discussion for coordination and strategy advancement. The Civil Defense chambers do not meet oftenly in the midst of harmony. Their gatherings are for the most part held in the fallout of a calamity to put together a reaction. These gatherings are gone to by political authority to the prohibition of administrative and specialized specialists. The specific coordination components that have been set up by various nations (recorded above), have surely assisted with moving the focal point of public endeavors from reaction to readiness and sometimes to catastrophe hazard decrease.

Notwithstanding, respondents noticed that such elements need authoritative presence past the public level, and particularly at the city level. In this manner, even in these nations at the neighborhood level, the Civil Defense naturally stays the essential office concerning disaster chances (e.g., Algeria, Egypt, Lebanon, Morocco). Like the sectoral services, the Civil Defense has a presence at the public, governorate and neighborhood levels, where it is commonly positioned in the locale base camp. Because of the contending sectoral needs and the inconsistent idea of calamity occasions, the Civil Defense stays a frail connection with the public regulatory apparatus. The division is famished of monetary, specialized (faculty) and material assets (gear and hardware). The Civil Defense division, additionally by its command, stays concerned basically with disaster reaction and less significantly on readiness.

Regarding its multidisciplinary coordination role, in contrast to the National Civil Defence Councils, coordination chambers are either non-existent or non-utilitarian at the governorate and nearby levels. The lone special case for this standard is by all accounts the Algerian Civil Protection that has, throughout the long term, changed into a powerful substance for catastrophe hazard decrease. Despite the shortcomings of the Civil Defense framework, a few nations have made huge progress in elevating metropolitan strength to catastrophe and environment chances. Among these are Algeria, UAE and, less significantly, Jordan and Lebanon. In Algeria, the work has been driven by the Civil Protection, chiefly as a reaction to the undeniable degree of dangers looked by the country from quakes and different calamities.

3.3 The Military (Civil Defense) and its Involvement in Disaster Management

To understand the role of the military in Disaster Management, it is pertinent to address the origin of the military and its purpose. Prior to the official conference in Westphalia in 1648, resulting in the establishment of a state regime, there were city states and kingdoms with no

borders, but only frontiers. The Westphalia state accompanied the possibility of regional uprightness and autonomy, which implied that states were presently bound to a characterized topographical region, an area that was hallowed and sovereign. With acknowledgment of this idea came the requirement for every individual state to look to secure its limits to ensure their power and regional honesty. This prompted arrangement and upkeep of the military for both guarded and hostile purposes. In the end this saw the arrangement of armed forces and naval forces to proceed to wander outside geological limits looking for assets and more domain. In the course of recorded history, the military has been exploited to do exactly that, in spite of the questionable use of morality for aggression to attain political goals.⁷⁶

The military has become more efficient and more capable of killing through technology. The last two World Wars left the world crushed because of dangerous abilities of the weapons and today; an atomic conflict is seen as a lose-lose situation that will annihilate the current civilization. Albeit the emphasis was put on the military's traditional undertaking of guaranteeing the state's self-sufficiency and poise, liberal popular government as the key way of thinking inside the worldwide framework, requires the reappraisal of the military's situation in the transformative parts of safeguard; remembering its job for catastrophe management. This reasoning has been provoked by the new security dangers across the globe that has now moved from the customary pragmatists way to deal with the visionaries; and recently, to human viewpoint that looks to scrutinize all components of human life; from the state-driven view to social-political and financial parts of the person.

All through human political history, the military has been used in supporting common experts in different exercises other than their central obligation of shielding the state against outer

⁷⁶Ndar, Alphonse. "A Critical Analysis of Kenya's Disaster Management Strategy." PhD diss., University of Nairobi, 2019.

animosity. The utilization of military in friendly community exercises is an all-around created idea in the United States and has been applied in numerous nations also. Without a doubt, the idea of "Military Civic Action" MCA is a formalized way to deal with what has gone on in a casual way since the start of coordinated government. It is the cycle by which the military adds to the social and monetary improvement of a general public. As Kent Butts takes note of the Greek and Roman officers had fabricated streets, pilgrim armed forces had set up open works, and, in the United States, the Army Corps of Engineers had assisted with settling the boondocks and keep up transport corridors for safe entry of merchandise; is there any valid reason why should not African militaries partake more in building their nations?

Following the breaking down of the Soviet Union, the end of the cold war and development of a unipolar worldwide framework, dangers of equipped military conflict have even diminished further prompting addressing the role of the military during peacetime. Would they rather not be used in local area improvement exercises, for example, development of roads and diving boreholes without dangers of war? In a forward to the altered works by McRae and Hubert Dan, Koffi Annan affirms that *"Today, we understand that protection is far more than dispute absence. Non-military causes of conflict are now more valued. Indeed, sustainable peace needs to have a wider vision covering areas such as security against human exploitation and the spread of lethal weapons, human rights and democracy, health and education. Unity without poverty alleviation is hard to create, and on the bases of inequality we cannot achieve prosperity. These pillars of what we now understand as the people-centered concept of human security are interrelated and mutually reinforcing"*.

Consequently, it was accounted for that the ideal changing responsibility of the military isn't just provoked by diminished danger of furnished clash yet in addition by the arising security

dangers, particularly in Africa. This groundbreaking idea on human security requires the need to "reconsider the job of the military in manageable turn of events and discover valuable manners by which the military can add to long haul feasible improvement when all is said and done in mechanical development specifically." This will extraordinarily upgrade their capacity in catastrophe reaction when called upon to deliver backing to the common experts in case of one or the other characteristic or man-made disasters, for example, those pervasive in numerous African nations because of ethnic struggles.

Nonetheless, while it is basic practice for some nations to send the military powers in the midst of catastrophe frequently to forestall plundering, build up correspondence or reestablish calm, it is recently that worldwide military intercession has been attempted as a system of calamity reaction in inward struggles. Such organization has raised various moral quandaries with states torn between utilizing the military in such circumstances and binding them to their conventional job. This is to a great extent in light of the fact that even where they have been called upon to intercede; their method of activity is distinctive in light of the fact that their way of life expects a specific freedom and prevalence over the set up apparatus. Thus, they set up progressive dynamic apparatus for affecting their procedure and over the long haul, cause different entertainers to feel sabotaged and disengaged.

This anyway has not kept common specialists from calling for military mediation during serious calamities in spite of the fact that there is a seething discussion with regards to the genuine job they should play. During the new storm Katrina and Rita in the US, the above banter took a middle stage since certain individuals felt that the overwhelming disaster which guaranteed more than 1000 lives was not all around dealt with. Therefore, some felt that the military ought to be given the lead part during such crises while others contended that the

occasions ought not reason them to scrutinize the incomparability of regular citizen offices in organizing and driving catastrophe reaction and recuperation Those on the side of the 'assuming control over' contend that the military's order and control construction would give the sort of system and productivity that is vital during crisis while others target misuse of the military's gear like helicopters, weighty machines and tents among others.

Respondents recognized that other than their center obligations, Kenya's military (Civil defence) has been associated with numerous country building exercises like restricted development of public utility framework, alleviation supplies administrations, harmony keeping, search and rescue, rebuilding of water supply frameworks, recovery of water dams for water system, sinking of boreholes for local area use and other common related exercises. In any case, significant inquiries have been raised on defense for proceeding with support of the military in the event that it can't be used in common exercises including disaster reaction during harmony time.

3.4 The Military (Civil Defense) and Disaster Management in Kenya

It was observed that Civil Military relations are tightly governed through the National Assembly. The military wing in Kenya is referred to as the Kenya Defence Forces (KDF). They comprise the Kenya Navy, Kenya Army, and Kenya Air Force. The structure and composition of the KDF as currently constituted, is captured in article 241 of Kenya's Constitution. The KDF Act of 2012 forms the guiding principle. Its central purpose is the defence and protection of Kenya's territory and independence. The KDF is used on a daily basis in and beyond African peacekeeping missions.⁷⁷

⁷⁷Menya, Alice A., and O. A. K'Akumu. "Inter-agency collaboration for fire disaster management in Nairobi City." *Journal of Urban Management* 5, no. 1 (2016): 32-38.

The military in Kenya has been engaged with catastrophe management exercises in the country on a few events. In any case, it is outstanding that the inclusion has for the most part been distinctly in light of crises of a high size and which demonstrate hard for the non-military personnel offices to deal with. At whatever point they have been called upon to intercede in such cases, their reaction has ordinarily been fruitful leaving behind the inquiry with regards to why they are never involved in misfortune hazard planning or given the role of the lead office in a disaster circumstances the nation over.

The inquiry that emerges is the reason the common specialists result in the military in crises past the limit of different entertainers in the country. From the beginning, the military is a conflict outfit that is consistently prepared for a crisis and is set up to work nonstop to win their fights. Therefore, they are very much prepared and prepared to work against any regular or artificial impediments. This preparation alongside the refined gear gives them a benefit over any regular citizen office in light of different kinds of catastrophe in the country. In reality, most calamity reactions particularly in the distant pieces of the nation require utilization of airplanes; just the military has such airplanes at the removal of the common specialists. Then again, officers are for the most part focused and used to headquarters that improves viable collaboration which is a sine qua non because of crises. Therefore, it was seen that they are typically preferred composed and accomplished more over their partners especially in search and rescue tasks.



Figure 3: Rescue operations in Nairobi, Kenya. (Source: Nation Media Group, 2016)



Figure 4: Rescue operations in Nairobi, Kenya. (Source: Nation Media Group, 2016)

Before 1998, the military in Kenya reacted to calamity circumstances out of the encounters procured either through military preparation or out of encounters acquired from harmony keeping missions outside the country. Consequently, they needed explicit preparing in calamity management. The present circumstance changed after the encounters of the harm brought about by the el-Nino downpours and the Nairobi bomb impact. The two episodes brought into light the need to zero in on inclusion of the military in misfortune management in Kenya. This was on the grounds that on account of el-Nino, the downpours caused a great deal of harm on the country's framework, cutting off roads and leaving a few groups marooned in their spaces of home. Here, the military needed to come in to reestablish the damaged foundation and transport fundamental administrations to the marooned weak gatherings among other crisis administrations.

Respondents revealed that these provokes presented to the military by the el-Nino downpours and the Nairobi bomb shoot stirred them to the need to focus harder on calamity management through persistent readiness to develop its reaction. Therefore, a completely fledged calamity management unit was made after a suggestion of the team made to do an evaluation of the harm brought about by the bomb.

Respondents recognize that this unit inside the military currently are better prepared and prepared to react to basic disasters in the country like road mishaps, flames, floods and fierce contentions among others. Other than this unit, the military likewise supports the public operational focus by backing its officials to the unit to help in its administration and specialized tasks. Surely the middle is more connected with the military than its mother service ministry regional organization and inner security.

3.5 Kenya Military (Civil Defense) Key Activities in Disaster Management

It was reported that key among the exercises is reclamation of safety, the rule of law in territories where the common policemen have been overpowered. The extraordinary models for this situation incorporate the 1998 terrorist bombing of the US international safe haven in Nairobi, the December 2007 post-political race brutality in the break valley area and the uprising by the Mt Elgon land safeguard power in western territory. On account of the Bomb-Blast, the military expected the lead job following three days of ungraceful endeavors by the different responders.

The other significant movement is rebuilding and restoration of dented foundation. The association has a similar benefit in this space since it has different kinds of substantial street development hardware and a completely fledged designing unit that far outperforms the limit and ability of the service liable for street development in the country. These proved to be useful during the el-Nino downpours where they had the option to raise an impermanent scaffold on Nairobi-Mombasa expressway after an extension was cleared away by the seething floods. In Budalangi space of the Western region, development and support of dykes by the military has helped in administration of the perpetual flooding of River Nzoia. Identified with this movement is dissemination of help food supplies to the far off pieces of the country, fundamental administrations like water and arrangement of clinical consideration to people influenced by different sorts of catastrophes. Search, rescue and clearing of weak gatherings comprise other critical roles of the military in misfortune the executives in Kenya.⁷⁸

Respondents announced that other disaster management functions by the military in Kenya incorporate firefighting administrations, folk lifting of mishap vehicles, unearthing and

⁷⁸ Ibid

expulsion of rubbles from imploded structures and freedom of safety streets in the distant pieces of the nation to work with government tasks in such zones. Among the different disaster management organizations in the country, the military prides itself as one of the vital entertainers because of the above mentioned and different roles it has played in this space throughout the long term. Nonetheless, this isn't without difficulties. The significant test is the way that regularly, the military are not implied in catastrophe hazard decrease arranging but, they spend considerable measure of their routine operational financial plan at whatever point they are called upon to deliver a hand in a disaster reaction. Simultaneously, finding some kind of harmony between their center capacity and such fringe obligations without a reasonable arrangement represents a difficulty to the protection chiefs. Somewhere else, coordination with regular citizen organizations demonstrates trouble in light of the fact that the military tries to be on the highest point of things by righteousness of their preparation while different offices accept the command.

In a perfect world, the military in Kenya are decently removed from the local area and do not associate with them consistently. Thus, both do not see one another and the pervasive doubt, and dread of the military by the individuals from the local area makes it hard for them-military to acquire acknowledgment from the local area even where they are offering administrations gainful to them.

Clashing reports from the respondents showed that in the new Operation 'OKOA MAISHA' (save lives) in Mt Elgon, some have blamed them for a wide range of violations including assault, torment and murder. Others have hailed their work and opposed their withdrawal from the space even after they effectively slammed the agitators who had made a great deal of dread around there. This represents a major quandary to the military where it is seen with doubt by a few and embraced by others during catastrophe reaction; but then, they have an

obligation to help the common specialists as accommodated inside the law that administers their activities. To be sure, the inquiry is the degree they should go and the specific job they should play in guide to the common specialists. Other than certain individuals from the local area, different entertainers as well, think that it's hard to work with the military because of their novel method of participation. This obstructs the association's execution where joint effort and between organization collaboration is vital.

Other respondents' perspectives recommended that in the midst of these difficulties, the military have succeeded genuinely well in their spaces of intercession and have acquired adoration from different entertainers and individuals from people in general for their responsibility and commitment and fruitful release of their obligations any place they are called upon. Their compelling presentation during the 1998 Nairobi bomb impact is an extraordinary component. Other effective mediations incorporate the 2002 Kikambala bomb impact, search and rescue at the fell structure along Ronald Ngara Street in Nairobi in February, 2006 where 13 lives were lost and a few harmed, transporting of alleviation food during the 1999/2000 dry season in the far off pieces of the country, development of dykes in Budalangi and end of the Mt Elgon Land Defense Force threat in the Mt Elgon locale among others.

3.6 Summary of the Chapter Key Findings

In Kenya, the military have consistently been called upon to react to crises that overcomes the joined endeavors of different actors. This is a result of their unrivaled gear, preparations and discipline. Any place they have reacted to an occasion, the military have been genuinely fruitful and this has brought up the issue concerning why they can't be allowed to take the lead in disaster response so such success can be achieved sooner than later. As a matter of fact, the Nairobi bomb impact case offers an extraordinary confirmation of their potential ahead of the pack. Their

intercession in ensuing disasters has similarly been effective notwithstanding of a couple of difficulties to a great extent. Taking all things together, utilization of the military in misfortune and disaster management is essential and in light of the fact that even where they are not involved at the very beginning, they have ended up being central participants around there.

CHAPTER FOUR

THE KEY CHALLENGES FACED BY THE CIVIL DEFENSE IN THE DISASTER MANAGEMENT IN NAIROBI, KENYA

4.0 Introduction

Disasters happen at any moment in any part of the world. The type of disaster that is likely to occur depends to a large extent on the environmental, political, economic, or social conditions prevailing in a region or country. Disaster management in Kenya's Nairobi region faces many challenges. A discussion of some of the key challenges encountered by the civil defense is provided below.

4.1 Inadequate Policy Framework

Many civil defense agencies do not have policies for disaster management. The lack of a policy means that when a tragedy happens, there are no specific instructions to be followed. Although workers remain inadequately qualified and do not remain in a state of alertness, the action plan remains subjective. Even when there is a policy, when crises occur, the workers do not follow the right course of action because they base it on theoretical expertise as opposed to real-life experience. Clareson et al place that numerous associations may have a calamity plan, however do not have staff able to do the arrangement. The arrangement's standard work on, keeping preparing to stay aware of the most recent improvements in misfortune counteraction and exploring the arrangement at any rate once a year will improve the probability of an ideal reaction to both more modest crises as often as possible set apart by spills, bug invasions, and minor form flare-ups and bigger local area or local catastrophes that might be unexpected or joined by genuine climate occasions. Staff should own the strategic plan. The level of success in

its execution is measured by familiarity with its contents. The case at hand is a botched general drill conducted in 2015 by Strathmore University in Kenya that resulted in the death of a staff member and about 20 injured students. The drill was coordinated by the university and security agencies to assess the alertness and reaction of the students in the event of a terror attack.⁷⁹ The problem is worse in places where, considering the unfavorable working climate, a large number of workers show a non-challenging attitude towards disaster preparedness.

4.2 Financial Constraints

Civil defense has been undergoing budgetary constraints in Nairobi. In their annual budgets, many institutions purposely exclude disaster management. To meet other conflicting needs, disaster management is cut out. It is not remembered at all in some situations. In the budget, unknown or unforeseen incidents (disasters) are not considered to be part of the essential things on the must-do checklist. However, it is worth noting that the odds of a set being destroyed by fire have been minimized by technical progress. These include sprinklers for water, freezers, fire doors, detectors for smoke, suppression devices, alarms, and generators for emergencies. Nevertheless, some institutions have not acquired most of these facilities.

Regulatory bodies have in many cases come to the aid of these civil defenses by developing minimum standards. The Commission for University Education (CUE) in Kenya for example requires that a university has the basic fire management facilities as part of an institution's accreditation requirements. These bodies will continue making a constructive input to the improvement and the setting of minimum standards for disaster management in civil defense.

⁷⁹ Obati, Gilbert O., and Broder Breckling. "Socio-ecological characterization of forest ecosystem health in the south-western Mau Forest Reserve, Kenya." *Eastern Africa Social Science Research Review* 31, no. 1 (2015): 89-118.

Recent technological developments have relatively lowered the cost of disaster management. Cloud computing has enabled institutions to back up their data without investing in relatively expensive information and communications technologies (ICT) infrastructure. Disaster management for digital resources has been made easier. The back-up is stored in remote servers and restoration of normal services is much possible when a disaster occurs. ICT resources; nevertheless, require support facilities such as power back up. Projects for digitization are on the increase as well. If these documents were also available in digital format, the loss of irreplaceable equipment, as in the case of arson activity in Timbuktu, Mali, could be minimized. Ensuring proper security of information resources and equipment is one way of minimizing man-made disasters.

4.3 Limited Insurance Covers

The idea of insurance in Nairobi isn't all around embraced. At the point when not constrained by law to protect a property, numerous associations may not guarantee quite a bit of their property. While tending to the circumstance in Asia where disaster events are viewed as the most elevated on the planet, Sawada and Zen see that a huge bit of calamity hazard financings carried by the public authority, following the insight that hazard the executives is a public decent. Despite the fact that the market component will neglect to address the entire framework, portions of catastrophe control can be attempted by the private area. According to Adekanye, civil defense insurance coverage typically covers property damage, business disruption, fraud, personal injuries, and automobiles.⁸⁰ The importance of Information Back-ups is stored on remote servers, and when a disaster occurs, normal services can be recovered. However, ICT services include support facilities, such as power back-up. Digitization programs are on the rise as well. The loss

⁸⁰ Adekanye, E. Ademola. "Insurance Coverage in Nigerian academic libraries." *Library Philosophy and Practice* (2010): 1.

of irreplaceable objects, as in the situation of arson activity in Mali, Tumbuktu, could be minimized if these records were also available in digital format. In certain ways, capital outweighs that of construction and machinery. Characterized by unusual occurrences, it is unlikely that the rule of large numbers works for Nairobi.

Therefore, protection covers are not customized for the common guard. Common safeguard winds up taking the accessible protection covers which just cover the staff, building, and maybe offices however leave out the data assets (stock) which establish the more noteworthy expense. A proper approach to insurance lacks in many civil defenses. Issa et al, emphasize that good disaster control planning in civil defense is a prerequisite for any insurance company or broker to undertake insurance coverage of civil defense.⁸¹

4.4 Inadequate Support Facilities and Services

Many towns and regions in Nairobi do not have adequate facilities for tackling disasters such as fire-fighting equipment. Whenever a fire breaks out in buildings it is common to experience response delays by the fire brigade. It is rare to find organizations or companies that have their standby support facilities in the event of a disaster, such as fire engines, temporary storage facilities, dehumidifiers, and deep-freeze storage. The segment describing the contacts and positions played by such stakeholders' reveals shortcomings when coming up with disaster plans.

There are inadequate disaster management experts to be consulted and organizations that offer support for civil defense-related disasters are seldom found. Their services are not frequently sought as in the case of countries or cities that experience disasters frequently. Many

⁸¹ Issa, Abdulwahab Olanrewaju, Mulikat Bola Aliyu, Adegboyega Francis Adedeji, and Akangbe Bisilola Rachel. "Disaster preparedness at the state public library, Ilorin, Kwara State, Nigeria." (2012).

civil defenses do not conduct an adequate risk assessment. Experts in this area are not readily available for civil defense in Nairobi. Many risk assessment experts specialize in other areas such as business and do not meet the specific needs of civil defense.

For emergency relief, technical facilities are instrumental. Rattan states that they have given a proper measure to rapidly warn, plan, share and react to a disaster in order to mitigate its effect and, in some situations, it is also possible to prevent the damage caused by a natural disaster.⁸² These include remote sensing technology, geographic information system, global positioning system, forecasting and warning system, communication technology, and the internet. For example, data collection instruments at meteorological stations are not modified as needed. The precision level remains poor when forecasting weather patterns. The media have shown how many individuals in Nairobi lose faith in a warning posed by meteorological departments, often even at their own risk. For instance, the government of Kenya set apart funds to mitigate the possible effects of El-Nino rains early in the year 2016. Many of the counties however failed to carefully utilize the funds by putting up structures that would minimize the effects of flooding, such as the construction of proper drainage.

4.5 Inefficient Communication Channels

Proficient correspondence channels are fundamental for viable disaster management. Nairobi County has made progress in the foundation of correspondence offices like phones. Tragically, numerous foundations don't deliberately set up an effective correspondence structure internally and with partners. In numerous offices, for instance, do not have telephone contacts at various offices and designated areas, do not identify contact persons or do not maintain

⁸² Rattan, Pardeep. "Role of library and information centres in disaster management." *Library Philosophy and Practice (ejournal)* 886 (2013): 1-11.

appropriate numbers, do not address technical hitches in a timely manner, or do not respond promptly to calls. As a consequence of delays in response by stakeholders, catastrophe incidents are not brought under fair control. Challenges in communication can also be traced to the absence of disaster plans. Disarray and absence of satisfactory help happen throughout a catastrophe when jobs and obligations were not characterized and conveyed before. Wrong or conflicting information may also be given to the media and other stakeholders when a civil defense does not adequately address public relations issues.

4.6 Unreliable Power Supply

Power generation in many areas of Nairobi County is not reliable. Power generating companies sometimes resort to rationing due to inadequate supply. Power fluctuations and outages in many cases damage equipment and this has become a common cause of the fire. This situation is exacerbated by the fact that software is rapidly being utilized in civil defence as data systems. Besides, more support facilities increase these risks, such as photocopiers, coolers, switches, binding equipment, laminators, and scanners.

Electrical problems have been mentioned by many media outlets as the potential cause fires in many houses. In diversifying the means of energy supply, it is time for Nairobi County to broaden its horizons. Apart from the conventional hydroelectric and geothermal sources, solar and wind should be considered as some of the potential generators. Technological disasters are raising more concerns in civil defense. As part of the causes of disasters in information technology, Zaveri involves variations in electricity supply and power failure.⁸³ The consequences of power fluctuation and loss are minimized by installations such as standby generators, uninterruptible power supply (UPS), and extension cords.

⁸³ Zaveri, Parul. "Digital disaster management in libraries in India." *Library Hi Tech* (2015).

4.7 Negligence

Managing disasters is a business operation. A disaster plan's effectiveness ultimately depends on the employee's support and entire cultural actions. Although a disaster plan specifies the steps workers can take on a regular basis, these requirements are mitigated in several instances by real practice. In Nairobi, disappointment is a major difficulty in misfortune for the executives. This applies to an inability to act with the level of alert that would have been drilled under similar conditions by somebody of standard consideration. The direct regularly includes activities, however where there is any necessity to act, it might likewise comprise of end (Cornell University). The failure to amend the emergency plan annually forms part of neglect.

There is a long list of ways in which staff in various institutions and areas in Nairobi show negligent behaviors. These include failure to identify faults promptly, inspecting houses, inability to close windows after working hours, failure to report faults promptly, Failure to shut off power outlets, inability to protect other resources sufficiently and Leaving taps on during a shortage of water. While this is a popular issue worldwide, in Nairobi the issue is very common. In some instances, where issues such as power failure and leaks are recorded, due to awkward procurement policies and standards in supporting agencies, there is an unavoidable time lapse in reaction in some instances.

Such failures frustrate disaster management efforts and in some situations lead to the occurrence of disasters that could have been avoided at early stages. Institutions and by extension Kenya governments ought to review the lengthy procurement procedures so that unnecessary delays are not experienced when acquiring the necessary items that support disaster control measures. It may involve defining conditions that may require immediate response or simplifying financial methods likely by means of small cash requirements.

4.8 Inappropriate Design and Use of Buildings

Several buildings in Nairobi were not purposely constructed. Where financing does not take into consideration the development of a very much planned structure, a moderately open room inside a structure is altered to oblige different requirements. This pattern additionally raises the risks that common safeguard faces and lessens the adequacy of rescue activities when an emergency happens. The addition of many other uses of a building raises the risk of disasters occurring. It encourages the availability of materials such as paper materials, liquefied petroleum gas, fuel, and wood to increase the spread of fire.

The troubles experienced in the procurement of existing structures limit the opportunity of common protection to pick a fitting space and hold fast to the vast majority of the wellbeing principles. Valuable materials are stored in the basement in certain intentionally built houses. During floods and water leakage, certain resources are easily destroyed by water. We frequently gain from the media of a few structures that break down because of helpless workmanship and inability to adhere to the building regulation. They are primarily the product of unethical practices by founders, building companies and authorizing officials who put their financial benefits in front of safety measures. External activities such as construction or renovation works of neighboring buildings should be undertaken with the safety of the civil defense resources and users in mind.

4.9 Poor Urban Planning

Closely related to the design of buildings is the planning aspect of many towns and cities. Many of the Nairobi city settlements were planned to suit the needs of the moment. Illegal structures also mushroom in Nairobi. Future expansion of basic infrastructural facilities such as

roads and drainage systems is near impossible. Slum dwellings exist in almost every area. The civil defence is affected by the ensuing floods triggered by inadequate drainage and fire outbreaks escalated by a crowded settlement.

Such prevailing circumstances frustrate the actions of disaster management. The Training Manager at St. John Ambulance (Kenya), Steve Mbugua, who is responsible for training in the organization, highlighted the challenges faced by battling fires in Kenyan slums. He notices that in most situations, when the fire services are called, the firefighters cannot get through the narrow, packed streets. That's just the way it is in Nairobi's slums, more so the prone areas like Kibera, Mathare, Shauri Moyo, Mukuru slums, etc. where a week does not end without a reported fire incident.

4.10 Occurrence of Major Disasters

Given the widespread evidence that climate change may magnify disaster events, preparation becomes increasingly critical to the survival of our cultural heritage.⁸⁴ It should be noted that, relative to nations on continents like Asia, Nairobi has less normal and man-made disasters. Cataclysmic events, volcanoes, tropical storms, seismic tremors and other characteristic dangers happen in less occurrences. Indeed, even where these disasters have been accounted for, the size is little contrasted with those accomplished in Asia, the United States, and different districts.

However, the mere feeling of comfort arising from this minimal frequency should be a source of concern for civil defense and key decision-makers in institutions. The impact of a disaster would be great in such an unprepared state. This is a wake-up call for civil defense and

⁸⁴ Page, Julie A., Thomas FR Claerson, and Thomas H. Teper. "Disasters know no borders"

top management of organizations in Nairobi to pro-actively embrace disaster management practices as a matter of urgency. The low frequency of occurrence of major disasters in Nairobi should be viewed as an opportunity for proper disaster management.

4.11 Weak Co-operative Links

The relatively few occurrences of disasters in Nairobi have contributed to the absence of co-operative endeavors in catastrophe management. A co-operative organization is perhaps the most effective methodologies for boosting common safeguard qualities before a catastrophe happens. Organizations immeasurably improve each thoughtful guard's capacity to react to and recuperate from calamity, while saving individuals time, cash, and exertion. These include emergency supplies, storage, transportation, and preservation and conservation facilities.

It is the frequency and effects of disasters that promoted the emergence of co-operative efforts in the United States.⁸⁵ Nairobi city ought to learn from these experiences and take proactive measures to manage disasters. Organizations in Nairobi don't need to encounter disasters to recognize their weakness and the need to hold moderation endeavors. It is significant that co-operative approaches can be successfully taken by the civil defense to address the serials crisis, and this approach easily applies to disaster management. The establishment and lifeline of these networks require administrative support from member institutions and strong leadership within the network.

⁸⁵ Davis, Sheryl, and Kristen Kern. "Cooperative activity in the USA, or misery loves company." *Disaster management for libraries and archives*. Hampshire: Ash gate (2003): 117-141.

4.12 Summary of the Chapter Key Findings

From the discussion above, it can be summarized that many of the challenges faced by the civil defense in Nairobi can be alleviated. Civil defense disasters in Nairobi are not as frequent as those in countries that experience many natural disasters. Nairobi should have a reason to worry that disasters do happen and the level of preparedness in most cases dictates the extent of damage it causes. It is better to act before a major disaster strikes while avoiding those disasters that are caused by careless activities or lack of caution by staff in respective institutions. Disasters do not recognize borders, so it is essential that civil defense apply precautions and develop emergency protocols if a disaster occurs to avoid and reduce the effects.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This segment gives the synopsis, conclusion, and suggestions of the examination which looked to evaluate the meaning of common safeguard in a disaster management in Eastern African with Kenya's capital of Nairobi as a contextual analysis.

5.2 Summary

The first objective of the study was to investigate the trend and response to the recent major disaster incidents in Kenya. Kenya is a country that is exposed to a wide range of disasters; they include HIV/AIDS, malaria and the most recent one, COVID-19. The study finds that the government of Kenya has its main prerogative in ensuring the good health of its citizens through strategic long term policies envisaged in Kenya Vision 2030. Moreover, this commitment is demonstrated in the Kenya Health Policy 2014-2030. This policy aims to attain universal health coverage (UHC), particularly in regions in dire need of health services.

Apart from disasters related to health, the country also experiences catastrophes in line with terrorism, fire, landslides, structural collapse of buildings, accidents concerning transportation services, among others. The National Disaster Operation Centre was developed specifically to manage these disasters following the El-Nino incident in 1998. It is within the objectives of the National Disaster Operations Centre to give daily reports to concerned stakeholders and engage in strategic measures of handling emergencies as they happen in the country. The Kenya Meteorological Department also assists by offering advisories and alerts to avoid calamities that arise due to bad weather.

The second objective of the study sought to examine the role of civil defence in disaster management in Nairobi County, Kenya. From the study, it was established that for many nations, military deployment in the past was majorly to prevent incidents of looting, and ensure the restoration of tranquility. However, recent trends indicate that military intervention also works in response to disasters happening within the country. Their regular duties notwithstanding, the civil defence within Kenya's military is also involved in a wide array of activities such as relief supplies, search and rescue operations, construction of public utilities, rehabilitation of water dams, and other projects concerned with public services.

The relationship between civilians and the military is regulated by Kenya's National Assembly as this helps avoid altercations. The civil defence has engaged in several disaster management programs; however, this involvement has been limited to serious emergencies which civilians are unable to handle. In truth, the majority of disaster in Kenya happens in the rural setting where infrastructure is not sufficient. Aircrafts are therefore vital in accessing these areas, and the military have such capabilities. The training and discipline of the armed forces makes them good candidates to handle these disasters and have a role of preventing further damage.

The final objective of this study was to establish and assess the key challenges faced by civil defence in the disaster management in Nairobi. The civil defence in Kenya faces a myriad of challenges. These challenges include poor urban planning, negligence, unreliable power supply, financial constraints, inefficient communication structures, inadequate support facilities, inadequate policy frameworks, and the inappropriate use of buildings. And while these factors are different, the advent of one often leads to another to make service delivery by civil defence personnel difficult.

For instance, several structures in Nairobi do not have sufficient equipment for managing disasters when they arise. Fire outbreaks in Nairobi are a common occurrence and such provisions are essentials. When such incidents occur, the fire brigade is called to action. However, because of weak cooperative efforts, poor urban planning, and negligence, this response is oftentimes delayed. The study finds that the major challenges affecting civil defence are connected and addressing one, while leaving the rest, cannot solve the problem completely.

5.3 Conclusion

The research concluded that Kenya has frequently been exposed to natural disasters on account of its poor economy. Floods, fires, landslides, collapse of buildings, food shortage, among others have been recurrent phenomena in the country. In its capital of Nairobi, the collapse of buildings and fires have been common with the National Construction Authority (NCA) making efforts to mark certain buildings for demolition. But what is more worrying is the urgency of such measures. Even when marked for demolition, these buildings stand still with tenants occupying such premises. This situation can be considered as negligence on both the authorities and tenants because it makes no sense to occupy a building that has such marks. Nevertheless, the buck stops with the authorities, they fail to act expeditiously and the majority of their measures are reactive.

The study also concluded that the primary objective concerning rescue, relief and rehabilitation operations in the advent of disasters or catastrophes is with the devolved structures of governance. The Central Government compliments these functions through the civil defence especially in disasters of great magnitude. They achieve this through the National Disaster Operations Center. Military personnel, the para-military and other specialists from institutions such as the Kenya Red-Cross Society are therefore deployed to intervene when such incidents

happen. However, the fact that these disasters are recurrent, almost in the same places every year, means that preventive measures have not been forthcoming.

The study further concluded that the Kenyan government is aware that the need for enhanced disaster management is necessary, however, the general trend in the country indicates that both the central and devolved governments are not adequately prepared to address these catastrophes. Although more measures still have to be put in place, the central government through the civil defence and other stakeholders have shown appreciation for disaster management techniques and procedures that are effective. The National Disaster Management Unit (NMDU) has been working with other stakeholders to formulate plans that will assist in the aversion of future disasters.

Accordingly, disaster management systems such as fire engines have improved particularly in major towns like Nairobi. Disaster management has been enhanced through drills and training. The government of Kenya has managed to empower the civil defence through regulations and equipment. Nevertheless, the country does not have a comprehensive disaster management framework that can act as the foundation of this law. At the same time, disaster management equipment is not sufficient; a huge proportion of city dwellers depend on a limited number of equipment. To this end, these measures need to be advanced to enhance response. Disasters in Kenya tend to be more complex, intense and frequent; consequently, an improvement of emergency response mechanisms by the civil defence is significant for effective disaster management.

5.4 Recommendations

Based on the first objective of this study which was to investigate the trends and response to the recent major disaster incidents in Kenya, this study recommends that:

National government to establish water reservoirs in ASAL areas and promulgate food security policy cascaded down to Counties in order to guard against droughts and famine. The water reservoirs and dams will in turn control floods and landslides beside guaranteed water supply in times of dry weather spells.

National government to establish communicable disease control task force, and invest in virology and bacteriology research & development in order to prepare action plans and effective response to epidemics and pandemics. Also ensure sustainable medical care at County levels to avert medical related disaster potentials.

National government to invest in robust intelligence and work with international support networks in the fight against terrorism. Public awareness on terrorism, de-radicalization programs, and enforcement of the “Nyumba Kumi” initiative may prove fruitful as far as terrorism related disaster mitigation measures are concerned.

The National government to institute and implement policies on structural building standards specific to County topographic landscape and ensure full compliance. The aim is to mitigate infernos especially in schools and public buildings, and avert avoidable structural collapse.

National government through its monitoring and enforcement machineries to ensure public adherence to traffic regulations and safety protocols in order to curb road carnage. Through devolved systems, Counties should endeavor to develop respective road infrastructure to international standards to reduce traffic related disaster incidents.

Based on the second objective of this study which was to examine the role of civil defense in disaster management in Nairobi County, Kenya, this study recommends the following:

Civilian population being the center of focus since they are highly affected by disasters, training and awareness on disaster management both in theory and practical to be introduced in learning institutions to inject a sense of readiness and civilian participation in safe guarding life prior, during or post disaster.

The County to established a multi-agency incident command structure of all disaster response agencies at County disposal in liaison with national disaster bureaus to ensure seamless operations in the disaster management cycle (Mitigation – Preparedness – Response – Recovery).

Based on the third objective of this study which was to establish and assess the key challenges faced by civil defense in the disaster management in Nairobi, this study recommends that following measures be enforced to mitigate against the challenges to civil defence in disaster management in Nairobi county:

Establish policy framework to govern standard operating procedures to guide and fuse disaster mitigation and response efforts of all disaster management agencies within Nairobi

County in concert with the National disaster management framework. The public through Sub-County authorities should be educated on communication channels and initial plan of action in the event of disaster incidents.

Urban planning and risk assessment must be a County government priority in mitigating against man-made disasters. Clear procedures to be instituted on certification and approval of all buildings designs within the County. This should be the role of civil defense, and all existing structures short of required standards should be condemned and reconstructed. Building standards should include as a requisite minimum, fire hydrants, and proper electrical and structural designs to ascertain building integrity, and accessibility lanes for responders in case of emergencies.

Legal framework to be established and ensure punishment is meted on persons who flout laws that safe-guard against man-made disasters, for instance sub-standard building constructions and approvals through corrupt channels.

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APPENDICES

Appendix I: Research Work Budget

ACTIVITY	UNIT COST PER ITEM	TOTAL (Ksh)
Proposal Development	Research (Data Collection)	2,000.00
	Typesetting/Printing 22 Pages @ 10/=	220.00
	Spiral Binding (2 Copies) @ 40/=	80.00
	Sub-Total	2,300.00
Chapter II – V Development	Research (Data Collection)	8,000.00
	Typesetting/Printing 82 Pages @ 10/=	820.00
	Spiral Binding (2 Copies) @ 40/=	80.00
	Sub-Total	8,900.00
Field Work	[Development of Interview Questionnaire]	
	Photocopying 100 Pages @ 5/=	500.00
	Transportation (Fuel Cost)	2,720.00
	Sub-Total	3,220.00
Final Project Report	Photocopying 104 Pages (4 Copies) @ 5/=	2,080.00
	Hard Cover Binding (3 Copies) @ 500/=	1,500.00
	Sub-Total	3,580.00
Miscellaneous Facilitations	Communication – Airtime	5,000.00
	Internet Bundles – Virtual Interviews	5,000.00
	Data Storage – Portable Hard Drive	2,000.00
	Sub-Total	12,000.00
	Grand Total	30,000.00

Appendix II: Interview Guide

Part I: Interviewer Introduction

A. My name is Elon Matendechere Were a student at Defence Staff College – Karen. I am currently pursuing a Post Graduate Diploma in Strategic Studies at the University of Nairobi and in partial fulfillment of my studies, I am conducting research work on the significance of civil defence in disaster management in Eastern Africa – with a focus on Nairobi County, Kenya.

B. I wish to ask you a couple of questions to help in the research; this interview won't take much of your time. Your response and personal details will be treated with confidentiality and anonymity. All views shall only be used to enhance and build my research work and not disclosed to any third party without your consent.

Part II: Structured Interview Questions

1. What are the most prevalent disaster threat models in reference to East Africa and please explain their respective early warning systems that trigger response action therein?
2. What are the trends of natural and man-made disasters in Kenya; and please elaborate on the nature and impact of such disasters?
3. Expound on the various Government policies in place relating to disaster management in the country.
4. What are the policy implementation challenges for disaster management and what is your opinion on the mitigation of such challenges?
5. Are there any National plans to ensure public preparedness and resilience against disasters in Kenya? Kindly elucidate.

6. What incident management systems and standard operating procedures does the responders to disasters adopt to?
7. What are the statistics for response efficiency and success rate of disaster mitigation and response by disaster management agencies?
8. In your own judgement, highlight the most frequent causes to man-made disasters in Kenya, and Nairobi County in particular.
9. Explain the legal framework legislating on disaster management that ensures the County remain steadfast in curbing and managing disasters.
10. What are your thoughts and beliefs on the civil defence concept in disaster management?
11. In what way can the civil defence concept be instituted and enforced in the country and especially Nairobi County to ensure public preparedness, resilience to disasters, and awareness on human-disaster interphase?
12. Does Nairobi County have a Crisis Contingency Plan? If yes, how does it ensures integration and concerted effort of the various disaster management agencies within the County and Nationally?

THANK YOU FOR YOUR CO-OPERATION!