EVALUATING RECORDS DISASTER PREPAREDNESS IN GOVERNMENT DEPARTMENTS IN MOMBASA COUNTY, KENYA

BY

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DECLARATION

DECLARATION BY THE CANDIDATE:

This research is my original work and has not been presented for examination in any other University. No part of this thesis may be produced without the permission of the University or the author.

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DEDICATION

I dedicate this project to my dad and mum, my wife and children; Amos, Mercy, Margaret and Mary.

ABSTRACT

Records management scholars and practitioners in Kenya have been concerned about the pathetic condition of records in the public sector in the country. The prevailing climatic conditions, security situation, political volatility and proximity to large water masses pose major challenges to records management in Mombasa County. These factors have raised serious concerns about the level of disaster preparedness of County Government departments in the event of natural and man-made disasters. However, no empirical studies have been undertaken to evaluate the state of disaster preparedness in government departments in the county. Therefore, the aim of the study was to evaluate the level of disaster preparedness in government departments in the county and to suggest ways in which disaster preparedness can be enhanced. The objectives of the study were: to establish the existing disaster preparedness strategies in government departments in Mombasa County; to determine the reliability of the existing strategies in preventing and responding to disasters; to analyse records disaster prevention and control strategies in place; to determine the effectiveness of the strategies in pre-emptying the effects of records disasters; to establish the challenges of implementing disaster preparedness and disaster control programs and to propose appropriate strategies for enhancing disaster preparedness programmes in government departments in Mombasa County. The study was informed by the National Archives of Australia Disaster Preparedness Manual for Commonwealth Agencies and the Queensland Public Authority Guidelines on Disaster Preparedness and Response for Public Records. The study population comprised of national and county government departments located in Mombasa County from which 37 departments, with functional registries, constituted the study sample. Mixed research approach and survey research design were adopted for the study. Non-probability sampling method using purposive sampling techniques were used to select the study sample. Data was collected by use of interviews and observation. Interview schedule and observation checklist were the key data collection instruments. Data was presented in tables and charts and analysed thematically. The study revealed that disaster preparedness in Mombasa County remains a major challenge and that government departments did not use the internationally accepted best practices to secure records against disasters. In a majority of departments, negligence in using government regulations and international standards and shortage of trained staff in many ways, put records in jeopardy in the event of disasters. The study recommended that to address the existing challenges, government departments should enhance recruitment of trained staff, strictly adhere to existing government regulations and also adopt internationally accepted best practices.

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ABBREVIATIONS AND ACRONYMS

DPM	Directorate of Personnel Management
ESARBICA	Eastern and Southern Africa Regional Branch for International Council of Archives
ICT	Information and Communication Technology
IRMT	International Records Management Trust
ISO	International Standards Organization
KNADS	Kenya National Archives and Documentation Service
MNHC	Ministry of National Heritage and Culture

OPERATIONAL DEFINITION OF TERMS

Disasters: Events that create disruption and inability in an organization in providing critical business functions.

Public records: documents of any ministry or government department and any commission, office, board or other body establishment under the government or established by or under an Act of Parliament.

Records: Documents regardless of form or medium created, received, maintained and used by an organization.

Records disaster: Any event that may lead to loss of part or all information held in records or that might render them inaccessible. **Records disaster preparedness:** Activities aimed at protecting records and records systems from risks and ensuring the continuity of business during and immediately after a disaster.

Vital records: Records that document the current status of ongoing business transactions and relationships and if destroyed the essential business functions of the organization might grind to a halt.

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CHAPTER ONE: INTRODUCTION

1.1 Introduction

Keeping records ensure there is future support for the carrying of core functions as well as compliance with legal and regulatory obligations (Mwangi, Ngetich & Ochichi, 2017). These same records, in addition to helping effectively manage the organization, also provide evidence of all the work done or not done, and how it was done, or why it was not done. This is only possible if the recorded information about the decisions made or resolutions arrived at during the previous meetings or processes are well managed.

The records management policy of the University of Greenwich Records Management Office (2015) affirms that any document created, received or maintained by employees during their working process belong to the organisation and are considered to be the official records of the organisation. Currall and Moss (2008) also advise that government must keep records to ensure the permanent preservation of its memory so that officials account for their actions to citizens. Records must be protected to ensure their integrity and accessibility by future generations.

1.2 Background to the Study

Several studies conducted by records and archives management scholars, practitioners as well as senior government officials on the state of records management in Kenya public sector have constantly reported a pathetic and dilapidated recordkeeping situation (Kemoni, 2007, Mazikana, 1990; Mnjama, 2003; Musembi, 2004; Wamukoya, 1996). Mazikana(1990) pointed out that in several registries, records were strewn on the floors

and under shelves; file covers often torn and crumpled, frequently with large numbers of pages missing; heaps of dirty, tattered and misfiled records found in corners and on top of cupboards; lack of discipline among staff who are driven more by tradition than by need; and office equipment that are in short supply and the few filing cabinets available being rusty and damaged.

The Directorate of Personnel Management (DPM) from time to time and at the behest of the Kenya National Archives and Documentation Service (KNADS) has constantly issued records management circulars for instance in 1985, 1989, 1991, 1999, 2003, 2008, 2012 and 2013 noting the poor records management practices in government departments and agencies and showing the nexus between the records management practices and the impact on public service delivery. The Government of Kenya in 2003 appointed a task force to investigate the state and causes of poor recordkeeping in government ministries/departments and local Authorities countrywide. The Task force observed that records management in the public sector was in a very deplorable state, from the registries, where current records were found, to the records rooms, where semi-current and non-current records were stored (Directorate of Personnel Management, 2004).

An Act of Parliament, the Public Archives and Documentation Service Act Cap. 19' was enacted 1965 and established the Kenya National Archives and Documentation Service (KNADS) in 1966. The department is mandated to guide public officers on all matters relating to proper records management in the Kenyan public sector.

Despite all the above, the management of Kenyan public sector records remains neglected by top government officials (Kemoni, 2007). Most records in these offices are poorly managed and exposed to environmental and human degradation. While records deterioration is apparent in many of the government departments, many officers seem less concerned and therefore little is been done to protect the records.

With increased effects of climate change and acts of terrorism coupled with the ensuing insecurity at the coastal city county of Mombasa and surrounding counties, the county and the society risk losing its valuable recorded information, if appropriate measures to safeguard it continues to be utterly ignored.

1.2.1 The Profile of Mombasa County

1.2.1.1 Political Administration

Mombasa County located approximately 500 km southeast of Nairobi is the smallest among the 47 counties created by the constitution of Kenya 2010. It served as the administrative and capital hub of the former Coast Province until 27th August, 2010 when the Kenyan constitution was promulgated and the city became Mombasa County. Due to its strategic position and infrastructural network, many government departments and state corporations offices were located in the county.

According to Independent Electoral and Boundaries Commission (IEBC, 2012), the county has four districts are namely:

(i) Mombasa Island (Mvita) with a surface area of about 14.1 km² it is the area most occupied by the town and also forms the island region.

(ii) Changamwe district forms the mainland west of the island with a surface area of about 54.5 km².

(iii) Likoni district is on the southern mainland with a surface area of 51.3 km².

(iv) To the north is the mainland area forming Kisauni district covering an area of about 109.7 km².

In 2012, Changamwe and Kisauni districts were further subdivided into Jomvu and Nyali districts respectively (IEBC, 2012).

1.2.1.2 Devolution/ Decentralization of Public Service Delivery

After the referendum for a new constitution in Kenya held and promulgated in 2010, some public service functions were devolved to the county governments while others were retained for the National Government. The functions formerly carried out at provincial level were set to be done at county level as listed in the fourth schedule of the Constitution of Kenya (Government of Kenya, 2010) as shown in Appendix V of this study. Most of the officers holding provincial offices at the time of transition were seconded to their respective county governments and re-designated to county officers for their corresponding departments.

Other services not devolved were retained at the national government level as listed in the fourth schedule of the Constitution of Kenya (GOK, 2010) are shown in Appendix V of this study. The affected provincial officers for the national Government were re-designated to either county directors or regional coordinators.

The Mombasa County is a host to over 76 national and county governments' offices that create and maintain records in both paper and electronic formats. Some of the state corporations such as the Kenya Ports Authority, Kenya Navy, Kenya Marine and Fisheries Research Institute and Kenya Ferry Services are headquartered in Mombasa. These offices generate volumes of both vital and archival records whose copies are not likely to be found anywhere else outside Mombasa County.

1.2.1.3 Geographical Location

Mombasa County is the smallest among the six counties within in the coastal region that also include Kilifi, Lamu, Tana River, Kwale and Taita Taveta counties. The county is located in the South Eastern part of the coastal region of Kenya. It covers an area of 229.9 Km2 excluding 65 Km2 of water mass which is 200 nautical miles inside the Indian Ocean. It borders Kilifi County to the North, Kwale County to the South West and the Indian Ocean to the East (Transition Authority, 2013).

Mombasa County lies between latitudes 3°56' and 4°10' south of the equator and longitudes 39°34' and 39°46' east of the Greenwich Meridian (Transition Authority, 2013).The County lies on the coastal plain 4–6 kilometres wide and within an altitude of between sea level in the east and about 45 metres in the mainland west (Awuor, Orindi & Adwera, 2008).Being a coastal county, it is characterized by a flat topography. The county is mainly centred on Mombasa Island, but extends to the mainland.

Due to climatic changes and the low altitude, reports indicate that around 17 per cent of Mombasa's area is being submerged annually by a sea-level rise of 0.3 metres (Awuor, Orindi & Adwera, 2008). Other reports such as Ottichillo, 2012 (as cited by Gacheri,

2012) indicate that Mombasa Island could be completely submerged in 50 years' time due to rise in sea level

1.2.1.4 Climatic Conditions

The climate along the coast region is tropical that is from mostly cool every day, to always warm/hot. This means rainfall and temperatures are higher throughout the year. The county and the coastal region at large experience very high temperature at a high of 32^{o}c and rarely below 21^{o}c and a highly saline relative humidity of about 75% (Mombasa climate, 2012). The region is expected to experience frequent increase in typhoons or cyclones, ocean surges, high tides and rising sea level resulting into floods (Leakey, 2008).

1.2.1.5 Built Environment

The whole county experiences physical planning challenges due to the proliferation of slums, lack of a well-planned sewerage system and other infrastructural facilities. During rainy season storm water tends to flood streets and houses (Transition Authority, 2013). The old town of Mombasa where many of the Government departments are located comprise of a collection of historical buildings dating from the 18th century and combines African, Arabic and European influences (United Nations Education Scientific Cultural Organization (UNESCO, 1990). These buildings are so congested that there is hardly enough spaces between them for even small vehicles to pass let alone a fire engines in an event of fire outbreak. This poses a big fire risk as fire from one building can quickly spread to neighboring buildings as fire engine cannot access the building on fire due to the narrow streets.

The office of the former Coast Provincial Commissioner, Mombasa District Commissioner, the Provincial Police Officer (PPO), County Police Commandant and the state house are located along the Indian Ocean shoreline. These Government departments are potentially at risk of flooding from typhoon.

The offices of the Kenya Ports Authority, National Museum of Kenya, Kenya Navy, Kenya Maritime Authority, Kenya Ferry Services and Kenya Marine and Fisheries Research Institute are all located at the sea front, exposing them to effects of floods caused by ocean tides and typhoons.

1.2.1.6 Insecurity at Mombasa County and the Coast Region

Mombasa County borders the Indian Ocean where terrorism find an easy escape route to the neighboring insecurity fraught Somali. Mombasa County is surrounded by heavy forested counties of Kilifi to the north and Kwale to the south. These forests serve as recruitment and training grounds for the terrorist and other terror gangs like Mombasa Republican Council (MRC). Police reports have established there are linkage between the insecurity occurrences and the activities of the groups in the forests (Mutiga, 2016).

Since the invasion of Somalia by Kenya Defence Forces in the late 2011, there have been increased terrorism activities in the form of blasts, violent intimidations and coercions perpetrated by the Al Shabaab in major towns of Kenya including Nairobi, Garissa, Mombasa and the larger north eastern and coast regions. Kenyan government officials believe that the attacks have been carried out by Al-Shabaab in retaliation for ‘Operation Linda Nchi’, a coordinated military mission between the Somali military and Kenyan military that began in October 2011. The attacks have targeted bars, beer

gardens, shopping malls, public services vehicles, churches, hotels, residential areas, boutiques and some government installation such as Police Stations and Provincial Administration offices.

1.2.1.7 Implication on Records Management

These factors variedly affects records typographical stability thereby depleting their legitimacy and reliability as indicated below.

(i) Climatic Conditions

The high temperature (21- 32^{o}C) and relatively high saline humidity (75%) levels against the recommended paper storage temperatures of between 18-20°C and relative humidity of between 45-50% (CODICE, 2011) cause embrittlement of the paper records over time and metallic file fasteners tend to corrode very fast, accelerates the chemical deterioration, materials absorb the moisture, swell and warp (Miller& Roper, 1999). At high relative humidity some inks spread well across the page (known as feathering) damaging the material. High relative humidity also promotes mold growth, which is highly dangerous to records and archives (Miller & Ropper, 1999). Computer storage media such as magnetic and optical media deteriorate quickly when exposed to high temperatures, humidity and contaminants, often resulting in the partial or complete loss of electronic data.

(ii) Geographical Location

Being at sea level and within low altitude exposes the county to coastal floods with environmental experts predicting an increase in frequency of tropical cyclones and typhoons, high tides, Tsunamis and ocean surges as global climate changes. United

Nations Development Programme (UNDP, n.d) reports that Coastal floods occur along the coastline with Indian Ocean due to wave activity resulting from tropical cyclones, Tsunamis and ocean surges caused by climatic change. Mombasa Island could be submerged by a rise in sea-level in 50 years' time due to global climate change (Awuor, Orindi,& Adwera, 2008; Ottichillo, 2012 and Leakey, 2008). This will in effect lead to loss of rich coastal folk's social, political and economic documentary heritage.

(iii) The Insecurity at the Coast Region

Government offices should see the increased terrorism activities and related insecurity as signs of an imminent debacle that may befell targets at any time and hence the need to put measures necessary to safeguard their physical and human resources as well as the recorded information. These terrorism activities cannot be ignored or wished away as their impact could find the functions of a government department and service delivery gliding to a halt.

Records are major government assets that can determine the quality of service delivery at both the national and county government level. Considering the region's harsh climatic conditions, geographical location and the imminent danger of attacks from terrorism, public officers are bound to protect records in their custody whether in paper or electronic formats against any form of disasters. This may result in information gaps leading to incomplete public records as well as loss of documentary heritage or total collapse of service delivery.

1.3 Records Management

Records management, as define by the International Standards Organization (ISO: 15489:2001), is the field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use and disposal of records. This entails capturing and maintaining evidence and information relating to business activities and transactions in the form of records. Records management therefore plays a major role in the care of records that are created within an institution whether public or private. Some of the reasons for records management highlighted by Richmond (2019) are:

(i) To preserve corporate memory

A proper records management program ensure that the information on work and research generated in an organization is captured and managed appropriately even after the office bearers have exited. With a proper records management program in place, it would be easy for the organization to store and retrieve every kind of record that has been created or received over any given period of time.

(ii) To support better decision-making

A proper records management program ensures that decisions made are well informed as they are based on documented proof as opposed to volatile and often failing memory.

(iii) To control the creation and disposal of records

Policies and procedures in records management control the creation, retention and disposal of records. A proper records management system help to organize and identify records which must be retained for day-to-day business operations and systematically dispose of the rest.

(iv) To reduce the costs of operation

A proper records management system help to reduce unnecessary costs by improving the management of an organization‘s information resources so that less money is spent on supplies and equipment. Organizations cut operational expenditure when their accounts and procurement sections keep records/database of prices, suppliers and supplies.

(v) To improve efficiency and productivity

A proper records management system improves efficiency and productivity by ensuring that information is available when it is required. Clients or citizens always complain when delivery of services is delayed due to records that cannot be found. Physical records are easily lost if they are stored in an ad hoc manner.

(vi) Legal and regulatory requirements

Generation and subsequent maintenance of records is meant to assist the organization with reliable and legal evidence for decisions and actions taken by its past and current officer holders. According to Chachage and Ngulube (2006) businesses should keep records they generate in their daily business operations so as to comply with legal requirements and protect the stakeholders’ rights.

1.3.1 Management of Public Records in Kenya

The management of records in the government ministries and departments in Kenya is undertaken within the framework of the Public Archives and Documentation Service Act (Cap 19 of the Laws of Kenya). This Act of Parliament established the Kenya National Archives and Documentation Service (KNADS) as a Government department

in 1965 to oversee the management of active, semi- active and non-active records in public offices. It gives the Director of KNADS powers to:

(i) Examine all public records and provide advice on their care, preservation, custody, control and to recommend for their transfer to the KNADS.

(ii) Provide custody to records with enduring value, ensure their preservation as historical records and to make them accessible to users.

(iii) Provide advisory services to public offices on the creation, reception, maintenance, storage and preservation of their current and archival records.

(iv) Approve at his or her discretion any institution, whether private or otherwise, as a place wherein may be deposited, housed or preserved, either permanently or temporarily, any public archives or records that have been declared public records as well as authorizing destruction of those records in his or her opinion, there are special reasons as to why they should not be preserved. (GOK, 2015).

The Act defines public records as records of any ministry or government department and any commission, office, board or other body establishment under the government or established by or under an Act of Parliament, records of public trustee, or the registrar-general relating to individual trustee or estate, records of the high court or tribunal, the records of parliament and of electoral commission. Also included are the records of any local authority or other authority established for local government purposes.

In the Act, the Public institutions are vested with legal obligation to create and maintain authentic, reliable and useable records, protect the integrity of those records and make them accessible over time in order to meet business requirements and community

expectations for as long as required. Therefore, the sole responsibility of managing current and semi current records rests on individual departments.

As good records management practices during the entire records life cycle is crucial for good quality archives, KNADS get involved in records management from the time records are created to the time they are passed on to it for final preservation. This is done through records survey and appraisal exercises carried out by KNADS through its five records centres located at the former provincial headquarters. Mombasa Records Centre in the Coast Region was established to facilitate implementation of the provision of this Act in public offices within Mombasa County and the entire Coastal region.

However even after revision in 2015, as Mnjama (2003) observed, the Act does not give clear distinction between the responsibilities of records creators and that of the National Archives. Many government departments tend to abandon records as soon as they become less needed for the daily conduct of business. The records are therefore relegated to less frequented areas such as stores and attics where they are prone to infestation by insect, rodents, dust and other agents of deterioration.

1.3.2 Records Disaster Management

Records are always at risk of disasters. These disasters can occur suddenly and unexpectedly while others can be very slow and quiet. Those occurring suddenly and unexpectedly usually come with a bang and include fires, floods or earthquake. The slow and quiet forms include mold, water seepage, theft, progressing technology, and insufficient control of record inventory. Some of the slow on-set disasters are environmentally induced by factors such as unfavourable light, temperatures and

humidity that encourage both physical and biological agents of deterioration of paper as well as electronic media which may cause natural decay of materials composing the media (Hlabaangani, & Mnjama, 2008)).

1.3.3 Records Disaster Preparedness

Records disaster preparedness involves planning for the protection of records and records systems against any form of disaster or risks so as to ensure the continuation of business during and immediately after a disaster (UNESCO, 1999). It involves use of techniques such as identification of vital records, identification of potential risks, having predictors and protective measures such as smoke and fire detection and suppression systems, offsite storage for vital records and electronic records backup, restricted access to electronic records, use of burglar-proof doors and windows to check unauthorized entry to records storage rooms and disaster planning and training of staff (CODICE, 2011;Records Authority of New South Wales, 2002)

1.4 Statement of the Problem

Over the years, studies in records management have always reported a dilapidated and pathetic situation in Kenyan public sector records which has been blamed on deliberate negligence, mishandling and destruction through natural, biological and chemical agents. These reports have unrelentingly proposed positive actions whose implementation would safeguard records against all forms of deterioration and information loss. Among the recommended actions is having a records disaster management plan whose objective is to prevent occurrence of a disaster or minimize the

effects of such disasters where prevention fails (Directorate of Personnel Management, DPM, 2004).

In an attempt to find a solution to the problem, a Draft National Policy on Records Management was developed in 2008 by the Ministry of National Heritage and Culture (MNHC). The draft policy underscored the importance of having a Disaster Preparedness and Continuity Plan for the protection of all public records (MNHC, 2008).

A records management procedures manual for the public service was developed in 2010 as a further step to improving records management in public sector. The manual directed ministries and public institutions to have Records Disaster Management Plans for effective management of disasters and emergencies (Directorate of Personnel Management, 2010).

In 2013, the Office of the President issued a circular on the 'Management of Public Records in the Devolved Government System' that directed National and County Governments to establish systems and resources that will ensure proper creation, use, maintenance, control and disposal of public records at the time of transition. The circular also directed that space occupied by Records Management Units or registries or used for storage of records not to be reallocated for any other purpose and if so, an appropriate alternative space be provided (GOK, 2013).

In spite of these recommendations and directives, a preliminary study of records management in government departments within Mombasa County show that records are

strewn all over, in offices, registries, corridors and neglected stores. These records continue to be exposed to agents of deterioration such as uncontrolled light, temperature, relative humidity, dust, insects and rodents not to mention the risks of vandalism, theft and terrorism while fire, flood and earthquake remain potential risks to these records. To date, no empirical study has been undertaken in the county to establish whether programs are in place to prevent or control records deterioration and evaluate if these programs are effective enough in pre-emptying the effects of records disasters throughout the records life cycle.

1.5 Aim of the Study

The aim of the study was to evaluate records disaster preparedness in Government departments within Mombasa County with a view of formulating appropriate strategies to enhance records disaster management.

1.6 Objectives of the Study

The study sought to:

(i) Identify disaster preparedness strategies in government departments in Mombasa County with a view to evaluate their reliability in preventing and responding to disasters.

(ii) Analyse records disaster prevention and control strategies in place to determine the effectiveness of the strategies in pre-emptying the effects of records disasters.

(iii) Establish the challenges faced by government departments in implementing disaster preparedness and disaster control programs

(iv) Propose appropriate strategies for enhancing disaster preparedness programmes in government departments in Mombasa County.

1.7 Research Questions

This study sought to address the following research questions:

(i) Do government departments within Mombasa County have reliable records disaster preparedness strategies in place?

(ii) Are there records disaster prevention and control strategies in place and are they effective in pre-emptying the effects of any records management disasters to ensure records are safe in case of a disaster strike?

(iii) What challenges do government departments face in the effective implementation of policy on disaster preparedness strategies in government offices in Mombasa County?

(iv) What are the appropriate strategies to prevent disasters or ensure that records are secure in case of a disaster strike?

1.8 Assumptions of the Study

The study was based on the following overarching assumptions:

(i) That, all study reports, circulars and directives from scholars and the DPM are disseminated for implementation to all Government offices starting from ministry headquarters down to departments at the location level. For this reason, it was important to evaluate records disaster preparedness and prevention implementation level and from the findings, make recommendations on how to improve or strengthen their implementation.

(ii) That, organizations or individuals with experience in records management disasters are more readily willing to embrace records disaster preparedness programs in their organizations than those without.

(iii) That, the situational variables will remain uncharged throughout the study period

(iv) That, respondents will provide honest answers to the researcher.

1.9 Significance of the Study

The study is significant in the following manner:

1.9.1 Theoretical Significance

The findings of the study add to the existing body of knowledge useful in the field of records disaster management planning, preparedness and control in both public and private sector

1.9.2 Practical Significance

The results of the study provide practical solutions to the problems associated with records disaster management by suggesting the appropriate strategies for enhancing disaster preparedness in Government offices.

1.9.3 Policy – Related Significance

The study results inform policy formulation on records disaster management in public offices not only to Mombasa County but to the other 46 counties countywide

1.10 Scope and Limitations of the Study

1.10.1 Scope of the Study

The study evaluated RM disaster management strategies in National and County Government departments within Mombasa County.

1.10.2 Limitations of the Study

The following limitations were experienced in the course of doing this research:-

(i) In an attempt to create room for new County Government offices in the devolved system, some offices experienced reorganizations. This disturbed the initial settings of the records storage rooms and facilities.

(ii) The newly recruited County Government officers offered little information or were too busy constituting their offices to afford much time for interview. To overcome this limitation, the researcher booked appointments with the concerned officers and use observation to complement the interviews.

1.11 Chapter Summary

This chapter has given a general background to the study. This included a brief profile of Mombasa County in relation to political administration, geographical location, and climatic conditions, built environment, devolution of public service delivery and the security challenges experienced in the County which vindicates Mombasa County for this research. The chapter also provides an overview of records management practices in Kenya and the legal framework underpinning records management activities. The chapter has given a brief description of the records disaster management and

preparedness to aid in better understanding the themes of the study. The problem statement, aim and objectives of the study were clearly articulated with the research questions, assumptions, the significance, scope and limitation of the study for the researcher to focus on variables to be studied.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Literature review is a critical and in-depth evaluation of previous research activities in a given study area that is undertaken for the sole purpose of establishing a link to the proposed research topic. In literature review, books, scholarly articles and any other relevant material to a particular study topic are surveyed. According to Mugenda and Mugenda (2003) the purpose of literature review is to determine what exists that is related to the research problem under study with a view to providing a framework within which the research findings will be interpreted. A review of literature for this study benefited the researcher in a number of ways. First, researcher gave a good understanding of the relevant previous research in the field. The researcher read what other researchers had already found out and recommended so as to identify gaps and avoid repeating what had already been done. Second, literature review assisted in clarifying and framing research questions which the research study was to answer. Third, it informed the choice of the research methodology by providing a comparative account of the suitability, advantages and disadvantages of the past relevant research methodologies chosen in similar studies. Fourth, review of the literature assisted the researcher in identifying theories and ideas that were tested using data thereby justifying the choice of the theoretical framework from others.

The researcher probed a number of sources that included print as well as on-line books, academic and professional journals. The researcher contextualized the study within the background of existing studies and models used in records disasters management. Three theoretical models used in records disaster planning, preparedness and control were

analyzed**.** The researcher then explored the challenges encountered in implementation of records management disaster preparedness plans that left records vulnerable to various agents of deterioration and particularly in the event of a disaster.

2.2 Theoretical Framework

Records are destroyed or damaged by disasters that manifest through natural, manmade or environmental induction (Minnesota State Archives, 2016). Formulation of a comprehensive, systematic, disaster-preparedness program is critical in mitigating or avoiding them (Odaro, 2012). These programs provide means for recognizing and preventing risks and responding effectively to disasters or emergencies (Ngulube, 2009). According to CODICE (2011), records disaster preparedness means planning for the protection of records and records systems from risks and ensuring the continuation of business during and immediately after a disaster. Ngulube and Magazi (2006), describe disaster preparedness as the practice of anticipating problems and planning for them. This may include taking precautionary measures to either prevent disasters or to facilitate the use of available resources in the best possible fashion when disasters strike (Ngulube, 2009).

Various models have been developed by records and archives management institutions to ensure public records are safe when disasters strike. These models include: The UNESCO Disaster Planning model, The National Archives of Australia Disaster Preparedness Manual for Commonwealth Agencies (2000) and The Queensland State Archives guidelines on disaster preparedness and response for public records (2012) among others. A discussion of these models will assist in understanding the concept of

disaster preparedness and what organizations need to do to be considered as being disaster prepared.

2.2.1 UNESCO Disaster Planning Model

This model was developed by UNESCO. It describes a disaster plan as comprising of four phases with a detailed description of each phase. These phases are:

Phase 1 - Prevention

Phase 2 - Preparedness

Phase 3 - Response

Phase 4–Recovery

Phase 1: Prevention

These are disaster preventive strategies that an organization should put in place to counter natural or man-made disasters. In the prevention phase, the following practices are made obligatory:-

(i) Identifying and minimizing the risks posed by the building, its equipment and fittings, and the natural hazards of the area.

(ii) Carrying out building inspections and altering any factors that may constitute a potential hazard.

(iii) Establishing routine housekeeping and maintenance measures to withstand disaster in buildings and surrounding areas.

(iv) Installing automatic fire detection and extinguishing systems, and water-sensing alarms.

(v) Taking special precautions during unusual periods of increased risk, such as building renovation.

(vi) Making special arrangements to ensure the safety of library or archival material when exhibited.

(vii) Providing security copies of vital records such as collection inventories, and storing these records off-site.

(viii) Protecting computers and data through provision of uninterrupted power supply.

(ix) Having comprehensive insurance for the library or archives, its contents, the cost of salvage operations, and potential replacement, re-binding and restoration of damaged materials.

Phase 2: Preparedness

This phase presumes a condition where the preventive phase have failed and a disaster strikes. Preparedness measures involve:

(i) Developing a written preparedness, response and recovery plan, keeping the plan up-to-date, and testing it.

(ii) Keeping together supplies and equipment required in a disaster and maintaining them.

(iii) Establishing and training an in-house disaster response team. The training should include:-

a. Disaster response techniques.

b. Identification and marking on floor-plans and enclosures of irreplaceable and important material for priority salvage.

c. Preparing and keeping an up-to-date set of documentation including:

d. Building floor-plans, with locations of cut-off switches and valves.

e. Inventory of holdings, with priorities for salvage marked on floor-plans.

f. List of names, addresses, and home telephone numbers of personnel with emergency responsibilities, disaster response team, trained conservators with experience in salvaging water-damaged materials, resource organizations, and other facilities able to offer support in the event of a disaster.

g. List of disaster control services, in-house supplies and equipment, and in any central store, including locations and names of contacts with home telephone numbers.

h. List of suppliers of services and sources of additional equipment and supplies, including names of contacts and home telephone numbers.

i. Arrangements made to access freezing facilities.

j. Arrangements for funding emergency needs.

k. Copies of insurance policies.

l. Salvage procedures.

(iv) Distribute the plan and documentation to appropriate locations on- and off-site.

(v) Institute procedures to notify appropriate people of the disaster and assemble them rapidly.

Phase 3: Response

This phase also presumes preventive measures have failed and a disaster strikes. The phase guides on how the response team should act when a disaster strikes. It requires that in case of a disaster strike the team should:

(i) Follow established emergency procedures for raising the alarm, evacuating personnel.

(ii) Making the disaster site safe.

(iii) Contact the leader of the disaster response team to direct and brief the trained salvage personnel.

(iv) When permission is given to re-enter the site, make a preliminary assessment of the extent of the damage, and the equipment, supplies and services required.

(v) Stabilize the environment to prevent the growth of mold.

(vi) Photograph damaged materials for insurance claim purposes.

(vii) Set up an area for recording and packing material which requires freezing, and an area for air drying slightly wet material and other minor treatment.

(viii) Transport water-damaged items to the nearest available freezing facility.

Phase 4: Recovery

This phase is referred to as 'Getting back to normal' phase. The phase entails activities such as:

(i) Establishing a program to restore both the disaster site and the damaged materials to a stable and usable condition.

(ii) Determining priorities for restoration work and seeking the advice of a conservator as to the best methods and options, and obtain cost estimates.

(iii) Developing a phased conservation program where large quantities of material are involved.

(iv) Discarding items not worth retaining, and replacing or re-binding items not justifying special conservation treatment.

(v) Contacting insurers.

(vi) Cleaning and rehabilitating the disaster site.

(vii) Replacing treated material in the refurbished site.

(viii) Analyzing the disaster and improving the plan in the light of experience.

This model is thus presented as a flow chart with the four phases outlined in Figure 2.1

Figure 2.1: The Unesco Disaster Planning Model

2.2.2 The National Archives of Australia Disaster Preparedness Manual for Commonwealth Agencies

This is a step-by-step manual of the activities that should be followed while preparing for a disaster or an emergency that may adversely impact on records. In the manual, disaster preparedness comprises of activities that are ongoing which are carried out as normal business and which are intended to decrease the likelihood of disaster incidents and lessen their impact if they occur. The manual provides five broad planning activities that an agency should undertake in preparation for a disaster or emergency. These are:

(i) Establishing an Emergency Committee

Disaster preparedness starts with establishing an emergency committee whose work is to manage the special requirements of an emergency. The role of the Committee will be to prepare a Disaster Preparedness Plan and for managing an integrated response and recovery to any emergency. The committee will be charged with ensuring the safety of

people who are likely to be affected by the emergency, the safety and security of records and the protection and preservation of buildings, equipment and other property.

(ii) Identifying and Assessing Potential Threats

Identification and assessment of potential threats involves identifying all possible threats such as fire, flood, water leak, vandalism, among others; establishing the probability of each threat and determining the possible and likely consequences of each type of threat. Threat assessment is used to identify and prioritize threats, and develop appropriate plans to reduce the risks.

(iii) Establishing an Emergency Response Team

After identifying potential threats, an Emergency response team of volunteer staff from each section of the agency to take part in salvaging records is constituted. All its members must be accessible by telephone at any time. The teams will need to be trained in response and recovery techniques and have good knowledge of preventive measures. This is because significant damage occurs to records through incorrect handling.

(iv) Gathering Equipment and Material

This involves gathering and procuring appropriate equipment and materials needed for efficient recovery of records. These items should be stored near the main entrance and be easily accessible to emergency response teams. However, large and/or expensive items such as plastic crates, archive boxes blotting paper, portable pump, dehumidifier, folding tables, portable generator, wooden pallets large fans, wet/dry vacuum cleaner may be purchased or hired when required.

(v) Identifying Priorities for Record Salvage

As part of preparedness, the emergency committee needs to identify vital records that are deemed essential for reconstruction and continued operations of the organization and to protect its organizational legal and financial interests as well as the general records that may have permanent value. Such records include: general correspondence of central offices or central boards, Committees etc. Easily identifiable items or small groups of items of historical or artistic interest include such records as plans or drawings, diaries and personal papers of ministers, records of personal interest such as naturalization records, crew and passenger lists, control records like indexes, registers, and vulnerable records such as magnetic tapes, photographic prints and films. Identification of these records will assist in their efficient recovery.

Other activities included as part of disaster preparedness are ensuring that the computer system programs are backed up on a regular basis, having a disaster preparedness network where the organization coordinates with other agencies with offices in the same building or in adjacent buildings having off-site storage agreements for back-up tapes. The other part of the manual describes response and recovery activities that form part of a disaster preparedness plan. These activities do not constitute major components of this study as their effectiveness solely depends on the prevention and preparation activities. The researcher does not intend to give them much elaborate attention. The disaster prevention and preparedness can conceptually be represented as shown in Figure 2.2

Figure 2.2: National Archives of Australia Disaster Preparedness Model for Commonwealth Agencies (2000)

2.2.3 The Queensland Public Authorities Guideline on Disaster Preparedness and Response for Public Records

This guideline identifies four stages of general disaster preparedness planning as made up of Planning, prevention, response and recovery. According to this guideline, records disaster preparedness entails two activities, namely, planning and prevention.

Stage 1: Planning - Assessing Risk

In this stage, public authorities are required to identify public records both physical and digital, and the potential risks to these records and related recordkeeping or business systems. Any history of disasters within the organization should be identified and staff made aware of potential risks and their impact on public records and systems. This should include an assessment of disasters experienced by other public authorities providing similar functions, and that of organizations located within a close proximity.

Other considerations in the disaster planning process might include:

(i) Establishing whether or not recordkeeping policies exist in the organization, and if present, whether or not they include information relating to disaster management.

(ii) Identifying the available resources and those needed to manage public records in the event of a disaster.

(iii) Establishing the integration of the disaster preparedness and response plan for public records within the organization's broader Business Continuity Plan, ICT recovery, and emergency management plans.

(iv) Establishing whether the organization's vital records have been identified and a management plan established.

(v) Establishing whether records with access restrictions have been identified and adequate staff clearance obtained so that those records can be managed in the event of a disaster.

(vi) Establishing whether the organization has or needs a memorandum of understanding with related organization(s) to assist in the event of a disaster involving public records such as storage space, salvage space, temporary work space or additional staff.

Stage 2: Prevention - Reducing Risk

This involves examining and preventing the likelihood of identified risks from occurring or reducing the possible impact should those risks occur by undertaking necessary activities to reduce their likelihood or impact. This is only possible after establishing a disaster preparedness plan to protect and recover public records in the event of a disaster. Risk reduction activities may include:

(i) Sourcing a new records storage location at a lower risk site.

(ii) Modifying the existing building to ensure risks are removed or minimized.

(iii) Modifying services and practices, for instance, not storing records on the floor, changing security and access arrangement.

(iv) Implementing protective mechanisms such as:

(v) Developing and implementing a disaster preparedness plan for records and recordkeeping systems.

(vi) Implementing a pest management program.

(vii) Writing policies and procedures to address risks in practices or service provision.

(viii) Backup programs for vital records.

(ix) Detection and suppression security systems.

(x) Boxes or secure packaging for all records such as fire or water proof safes for vital records.

(xi) Appropriate staff training to increase awareness and prevent any unsafe practices.

(xii) General controls for electronic recordkeeping systems such as organization controls, systems development, maintenance, documentation controls, access controls, data and procedural controls, physical security, password systems and communication security.

(xiii) Just like the NAA (2000), the other parts of the guideline comprise of response and recovery activities that form part of a disaster preparedness plan. These activities do not constitute major components of this study and since their effectiveness solely depends on the prevention and preparation activities the researcher does not intend to give them much elaborate attention. The Queensland Public Authorities Guideline on Disaster Preparedness and Response in Public Records can graphically be demonstrated as shown in Figure 2.3.

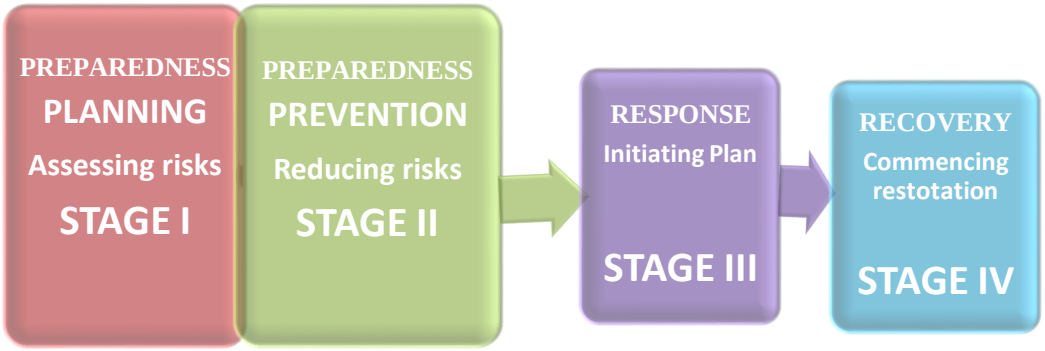

Figure 2.3: The Queensland Public Authorities Guideline on Disaster Preparedness and Response in Public Records

2.2.4 Linking the Theoretical Models to the Study

The UNESCO disaster planning model though practical, was not suitable for this study because of the following reasons:

(i) It is designed to address the management of non-current records in a library or archives setup whereas records in government departments within Mombasa County are active, semi active and non-active records.

(ii) Some departments are housed in private rented buildings with no records keeping functionalities in their architectural designs and any alteration to mitigate potential hazards to records may be difficult if not impossible to undertake.

(iii) The model though it describes activities involved in prevention and preparedness, some of the activities are not applicable to active records for instance exhibitions and taking insurance cover for the records.

(iv) The plan does not show the starting point of the disaster preparedness process and who in the archives or library takes the responsibility of developing a disaster plan. Therefore the disaster preparedness process is always hanging.

(v) The plan does not address safety and security of electronic records.

Due to the above highlighted shortcomings, this research study did not use the UNESCO model and instead used a combination of the National Archives of Australia (2000) and the Queensland Public Authorities Guideline (2012) to assess the status of government departments within Mombasa County regarding their preparedness to manage disasters that may affect their records.

The use of the National Archives of Australia manual (2000) to inform the study was motivated by several reasons namely:

(i) The manual was developed for all types of active, semi active as well as non-active records and electronic records in commonwealth agencies and includes detailed step by step information on disaster preparedness activities.

(ii) The manual gave a starting point for any disaster preparedness program beginning with the constitution of a disaster committee. The committee once constituted will then carry out all the five broad planning activities that an agency undertakes to prepare for a disaster or emergency. These are namely:

a. Preparation of a Disaster Preparedness Plan and managing an integrated response and recovery for any emergency.

b. Identifying and assessing potential threats such as fire, flood, water leak, vandalism in order to identify and prioritize threats, and develop appropriate plans to reduce the risks.

c. Establishing an Emergency Response Team comprising of volunteer staff to take part in salvaging records and ensuring they are trained in response and recovery techniques and have good knowledge of preventive measures.

d. Gathering and procuring appropriate equipment and materials needed for efficient recovery of records and ensuring they are stored near the main entrance and are easily accessible to emergency response teams.

e. Identifying priorities for record salvage which involve identification of vital records that are deemed essential for reconstruction and continued operations of the organization immediately after a disaster and to protect its organizational legal and financial interests as well as the general records that may have permanent value.

f. The committee will also be charged with ensuring that the computer system programs are backed up on a regular basis and having a disaster preparedness network with other agencies with offices in the same building or in adjacent buildings so as to have an off-site storage agreement for back-up tapes.

(iii) The manual is ideal for records at any stage in the lifecycle within commonwealth agencies which makes it useful for consideration in this study.

It is important to note that this manual provide much information on preparedness activities and less information on preventive measures and for this reason the research study was also informed by the Queensland Public Authorities Guideline (2012).

The Queensland Public Authorities Guideline (2012) adequately provides information on the records disaster prevention activities. The guideline use planning and prevention activities to get public authorities prepared for disasters. The term disaster preparedness is taken to include planning and prevention activities. Although the guideline does not place the responsibility of developing a disaster preparedness plan and constitution of a

disaster response team to a specific individual or group of individuals within public authorities, it provides a detailed account of activities to be undertaken by public authorities in readiness for disasters affecting records.

When used in combination, the elements in the Queensland Public Authorities Guideline (2012) and the NAA (2000) manual were brought together and the disaster preparedness concept became clearly defined. The parameters for assessing disaster preparedness phenomenon in government offices came into focus. By establishing whether the activities outlined in both models have been undertaken in government offices, the researcher was in position to authoritatively state whether or not government departments within Mombasa County were disaster prepared.

2.2.5 The Conceptual Framework

Various studies have been conducted in the field of records management practices in Kenya, but no known study has been undertaken to capture the aspect of records disaster management practices at the coastal county of Mombasa. This study established that implementation of an effective records disaster preparedness program as a dependent variable, is seriously hampered by a number of factors, that range from the staff attitude, training, skills and experience, availability of adequate funding, existence and implementation of records management policies to inadequate and inappropriate storage rooms and facilities referred to in this study as independent variables. The relationship between the dependent and independent variables is as shown in Figure 2.4.

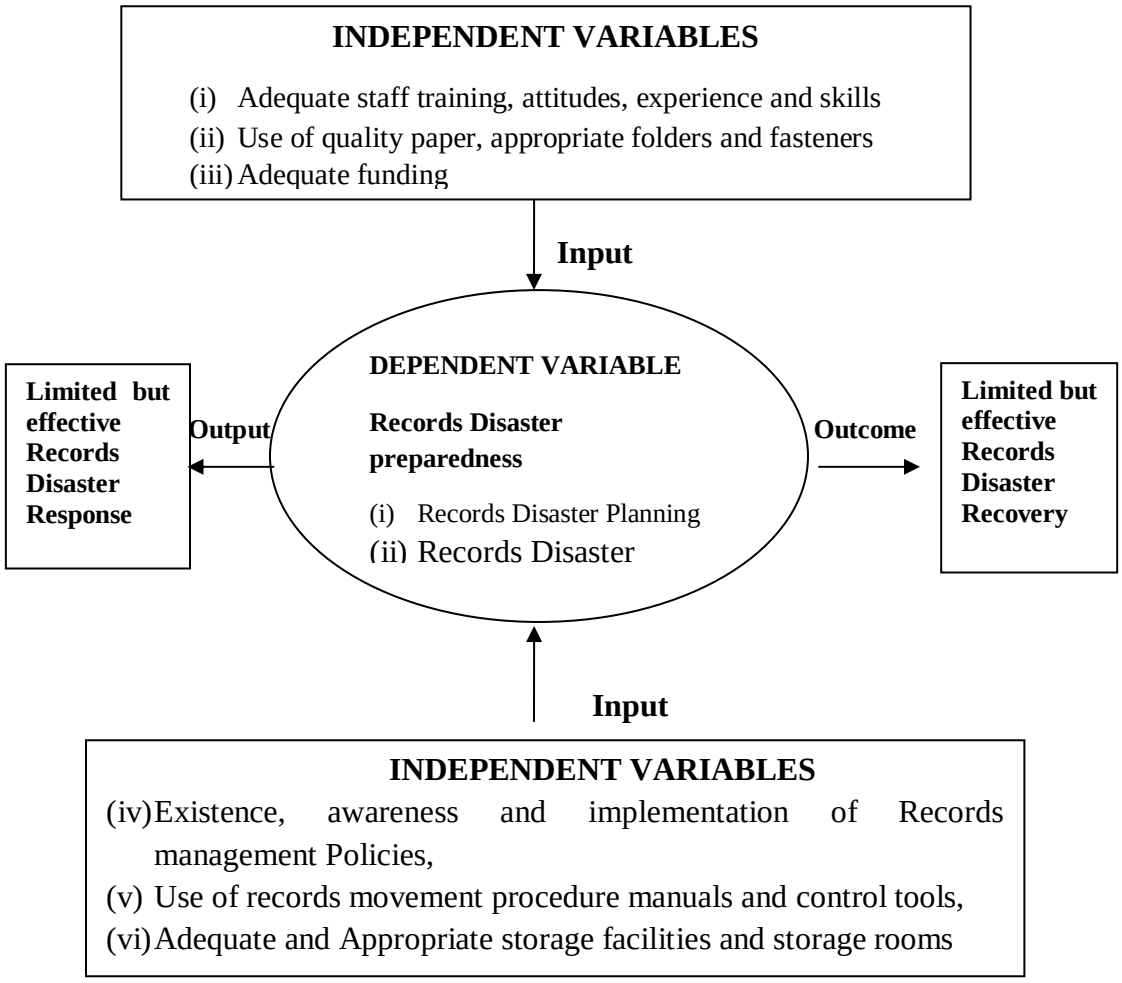

Figure 2.4: Conceptual framework for Public Records Disaster Management

2.3 Review of Related Literature

2.3.1 Types of Records Created and Maintained in the Public Sector

Various types of records are created, maintained and used by public institutions. They are classified according to their functional domain as outlined by the Presbyterian Historical Society (2016) and Richmond (2019), namely:

(i) Administrative records such as general/routine correspondence, subject correspondence, invitations, meeting notices and agenda, minutes, registers

(marriage, birth, death), data for updating mailing lists, mailing lists, reports (monthly quarterly and/or annual) memoranda, information recorded in ledgers, registers, notebooks, appointment diaries, acknowledgments, requests, travel plan arrangements and other volumes.

(ii) Financial records, comprising annual budgets, annual audits, financial ledgers, petty cash records, receipts of purchases, accounts payable invoices, accounts receivable ledgers, bank deposit slips, cancelled checks, bank statements, cash receipt records, expense reports and periodic financial statements.

(iii) Legal records that include judicial cases, contracts, loan agreements, property records (deeds, blueprints, etc.), wills, bequests, bylaws/charters, incorporation records.

(iv) Personnel records/employee personal files.

(v) Manuals/handbooks, newspapers/newsletters, brochures/promotional materials.

2.3.2 Formats of Records Created and Maintained in the Public Sector

Records created, received, maintained and used in public offices are in different forms or media such as paper, roll microfilm, microfiche or computer output microfiche (COM) formats (microforms); photographs; sound recordings on disk or tape; as moving images on film or video (audio-visual records); as electronic text or images copied on magnetic tape or magnetic or optical disk or held in online databases (electronic records; formerly known as machine-readable records); as three - dimensional models, scientific specimens or other objects; or as combinations of any of the above formats in an electronic form. Others include maps and plans (cartographic records), architectural and engineering

drawings, pictures (iconographic records) or computer printouts, handwritten (manuscript) (International Records Management Trust (IRMT), 2014).

The emergence, use and adoption of information and communication technologies (ICTs) in the field of records management resulted in records created as e-mail, text messaging, voicemail, word processing documents, spreadsheets, web content, or forms. This has enabled records such as financial and human resource records to be maintained in an electronic format and stored on network servers (Presbyterian Historical Society, 2016).

2.3.3 Vital and Archival Records

Vital and archival records are the organization's most valuable records. They are essential for the ongoing business activity of the organization and are usually associated with an organization's legal and fiscal matters. If vital records are destroyed, they must be recreated to resume essential business functions as the organization cannot function since they provide evidence of the organization's assets and the rights of customers (Przybyla & Huth, 2004). Some examples of vital records are original policy documents, tax bills and receipts for the current year, property records, open contracts, active case files, and records of unfinished construction projects and payroll records. These records are essential to support the critical functions of your organization Archival records are records with enduring historical value. Archival records include such records as annual reports, tax assessment rolls and board minutes.

2.3.4 Records Management Practices in Government Departments within Mombasa County

Records management units in government departments and agencies within Mombasa and Kenya in general remain a neglected area (DPM, 2004). Mazikana (1990) observes that records occupy all available space in registries and store rooms of government ministries with rudimentary or non-existent file index systems. In several registries records are scattered all over the floors and under shelves; file covers often torn and crumpled, frequently with large numbers of pages missing; heaps of dirty, tattered and misfiled records found in corners and on tops of cupboards; The equipment are in short supply, the few filing cabinets available being rusty and damaged. Wamukoya and Mutula (2005) hold a similar view by observing that official records and archives in East and Southern Africa countries have not changed much to enhance transparency and accountability in government.

Various historical, political, cultural, managerial and technological factors are believed to be behind this state of records as noted by the following:

(i) Mazikana (1990) attributes cases where time-expired records are not disposed of to lack of capacity in the national archives and lack of discipline among staff whom he accuses of seemingly being driven more by tradition than by need (Mazikana, 1990.)

(ii) Millar (1999) attributes this to a widespread belief that the problem is so prevalent, deep-rooted and difficult that little can be done to improve the situation. She dismisses them as false assumptions acting as obstacles to the effective implementation of sustainable solutions.

(iii) Kemoni (2007) on the other hand attributes this partly to lack of support from senior government officers and lack of records management strategies.

(iv) Mnjama (2007) highlight cases of court files going missing in Kenyan courts due to corruption and lack of integrity of registry staff.

(v) Burns, Ferris and Liatsopoulos (2008) observe that the problems facing records management in Africa (including Kenya) are due to lack of funds, old and failing infrastructure, lack of staff and appropriate training as well as government moving towards e-government.

(vi) Mnjama (2003) in an attempt to establish the real causes of poor state of records in public institutions in Kenya identified and outlined the following as possible causes:

a. Failure by senior managers to establish acceptable recordkeeping goals and practices.
b. Failure to hire competent and qualified staff in the area of archives and
c. Records management.
d. Failure to provide adequate storage facilities thus causing registry staff to lose morale and motivation.
e. Failure to encourage training in records and archives management.
f. Lack of administrative and financial support to those working in registries.
g. Failure to implement various recommendations on the management of records.
h. Failure to emphasize on introduction of ICTs as a means of solving information management problems.

Mnjama (2003) also blames the Kenyan Public Archives and Documentation Service Act for the records management woes. He argues that although the Act places the responsibilities of managing records throughout their life cycle to the director of KNADS, it does not specify at what stage the Director should assume his responsibility. He observes that as a result of this, many public officers know the national archives as a dumping ground for old records and whose functions are not very clear among those who work in records offices.

Mnjama and Wamukoya (2004) opine out that the problem of poor records management in East and Southern Africa is due to: absence of organizational plans for managing records; low awareness of the role of records management in support of organizational efficiency and accountability; lack of stewardship and coordination in handling records; absence of legislation, policies and procedures to guide the management of records; absence of core competencies in records and archives management; absence of budgets dedicated for records management; poor security and confidentiality controls; lack of records retention and disposal policies; and absence of migration strategies for records.

For electronic records, Wamukoya and Mutula (2005) observe that there is insufficient capacity and training among records and information managers and national archivists to articulate e-records issues and provide guidance and input to policy makers and planners. This situation is complicated further by the fact that at policy level, senior officials and legislators are often unaware of the requirement to manage electronic records over time so that the evidence base of government will be secure and accessible when needed by authorized users.

Back in 1990, Mazikana observed that Kenya was among few countries in Africa such as Botswana, Namibia, South Africa and Zimbabwe where national archives was involved in the management of public records. Kenya was also among few countries where the national archives carried out regular visits to ministries and departments to undertake surveys. The Kenya National Archives and Documentation Service has since established six records centers in six provinces which in addition to storing semi-current and non-current records, they are involved in providing advisory services on management of public records. Mombasa County in particular has a records center that serves the coastal region.

2.3.5 Disasters

Various descriptions have been presented to define the term disaster. Among such descriptions include one by the American National Archives and Records Administration,(NARA, 2005) who define disaster as an adverse event of organization-wide or community-wide impact resulting in significant damage and loss that requires the use of prolonged or extraordinary resources to return conditions to normal.

CODICE (2011) view disasters as unexpected events with destructive consequences which can be measured by the scale of damage as well as the effect that the incidents create. The records management disaster planning toolkit guidelines (2007) describe disaster as any event that creates inability on an organizational part to provide critical business functions for some predetermined period of time.

2.3.5.1 Categories of Disasters

Disasters can broadly be classified as either natural or man-made. Natural disasters, according to the National Disaster Management Authority (2009) comprise of drought, bushfires, windstorms, flooding, cyclone, earthquakes and landslides, lightning strike, rain hails and sleet, volcanic eruption, tsunami. Man-made disasters on the other hand, comprise of structural disasters such as leaks in the building, sprinkler/electrical malfunction, building or part-building collapse, sewer/storm water/ drainage failure; industrial disasters such as chemical or fuel storage, gas leaks, explosion fire, falling objects damage; criminal behavior such as vandalism, demonstration, sabotage, theft, arson, bomb and terrorist attack, riots and civil disorders, computer hacking, cybercrimes; technological disasters that include computer viruses and computer equipment failure and lastly accidental disasters such as transport/road accidents.

The National Disaster Management Authority (2009) further classifies disasters into either slow- onset or rapid - onset. Slow-onset disasters are cyclical in nature and impinge on a large number of people and their effect can be predicted, controlled and prevented. Rapid – onset disasters on the other hand affect few people, they take place any time, may be violent and require quick response.

Simply put disasters are those events that cause great damage, loss and undesirable disruption to the normal functioning of the affected group and which require the use of resources beyond the ability of the group to return conditions to normal.

2.3.5.2 Types of Disasters in Records Management

Disasters involving records like other disasters can be sudden and unexpected or very slow and quiet. The Harvard University Library (2010) observes that disasters in records are not only fires, floods or other catastrophic events that usually come with a bang, some records disasters are quiet threats in the form of mold, water seepage, theft, progressing technology, and insufficient control of record inventory. Some slow on-set disasters are environmentally induced by factors such as unfavorable light, temperatures and humidity that encourage both physical and biological agents of deterioration of paper as well as electronic media which may cause natural decay of materials composing the media. In support of this, Roper and Millar (1999) point out that even a slight change in humidity and temperature can disturb the magnetic properties of disks and tapes thus leading to the loss of some or all of the records.

Records disasters whether they occur suddenly and unexpectedly or slowly over a long period of time due to poor storage conditions, cause significant damage or destruction to records rendering the information they contain inaccessible quite often leading to impairment of the functions of the responsible government agency (Przybyla &Huth, 2004).

Hlabaangani and Mnjama (2008) divide disasters in records management into two broad categories, natural or man-made. While natural disasters are those caused by floods, earthquakes and storms, the man-made disasters are those caused by arson, armed conflict, poor storage and environmental conditions, fire, vandalism and theft.

The State Records of South Australia (2007), like the National Disaster Management Authority (2009) divides disasters that affect records into 6 categories to include:

(i) Natural events or hazards including earthquakes, bushfires, Tsunami and cyclones floods, vermin, lightning strikes, windstorms.

(ii) Structural or building failure such as malfunctioning sprinklers, heating or air conditioning systems, leaks in roofs, poor wiring, sewer/ storm water/ drainage failure, energy failure.

(iii) Industrial accidents such as nuclear or chemical spills, fire, explosions, gas leaks, falling object damage, Dust and Uncontrolled Light.

(iv) Technological disasters such as viruses and computer equipment failures, acidity in paper,

(v) Criminal behavior such as theft, arson, espionage, vandalism, riots, bombing, demonstrations, terrorism and war.

(vi) Accidental loss through human error.

2.3.5.3 Effects of Records Disasters to an Organization

Records disaster of any description has the potential to deprive organizations the information needed to resume normal operations. Przybyla and Huth (2004) observe that loss of information can cause business failure, lead to staff frustration, loss of morale with decreased productivity, impaired services to citizens, deprive the evidence needed in court, or make it impossible to document organization's revenue and assets. They therefore warn that records are always potentially at risk of disaster and due to the importance of these records, their loss in a disaster can impair the functioning of the

responsible government agency. Elsevier (2016) calls on all information centers to recognize the vulnerability of their collections to loss through theft and vandalism.

A records disaster can therefore be seen as an event that may lead to loss of business critical information of an organization in part or in whole resulting into temporally or permanent impairment of the operations of the affected organization.

2.3.5.4 Disaster Prevention

According to Issa (2012), a disaster plan is the most appropriate records disaster preparedness strategy. The plan will describe the procedures for prevention and preparation for disasters, those proposed to respond to and recovery procedures from disasters when they occur. Disaster preparedness is in fact hinged on whether or not an organization has a disaster plan (Lyall 1996). Ngulube and Magazi, (2006) observed that where a disaster plan does not exist, time and much effort are wasted which end up actually damaging the materials more than the disaster itself as wrong people will be notified and incorrect salvage techniques will be employed. UNESCO (1999) points out that a formal written plan enables an institution to respond efficiently and quickly to an emergency. Once the committee has assessed and identified the potential risks that the records are exposed to, necessary measures are put in place to prevent such risks from occurring.

Disaster prevention activities as indicated by Queensland Public Authorities Guideline (2012) should include carrying out building inspections and altering any factors that may constitute a potential hazard; establishing routine housekeeping and maintenance measures to withstand disaster in buildings and surrounding areas; installing automatic

fire detection and extinguishing systems, and water-sensing alarms; taking special precautions during unusual periods of increased risk, such as building renovation; providing security copies of vital records such as collection inventories; plans or drawings; diaries and personal papers of ministers; records of personal interest such as naturalization records, crew and passenger lists; control records, such as indexes, registers, etc. and vulnerable records such as magnetic tapes, photographic prints and films and storing these records off-site; Protecting computers and data through provision of uninterrupted power supply.

Other prevention strategies as suggested by Lyall (1996) and Toyonaga (2010) may include: repair of leaking roofs, maintenance and the upgrading of security; regular checking that records are not stored on the floor; frayed electrical cords; water leaks and weather damages. Other measures include checking that no garbage or hazardous chemicals is lying about; checking for any problems with heating, air conditioning and electrical systems; unplugging equipment/machinery when not in use and turning off equipment at the close of the day. All fire exits should be properly identified and kept clear at all times. The fire extinguishers should be checked twice a year; all the extinguishers should be easily accessible; the in-built fire alarm checked twice monthly; fire drills held once a month where all staff members are taught how to use the fire extinguishers; prohibition of smoking in the records and Archives storage among other routine checks; security guards always man the gate, staff always wearing identification badges and visitors signing the visitor's book.

2.3.5.5 Records Disaster Preparedness

The NDMA (2009) view disaster preparedness as a package of precautionary measures, taken in advance of an imminent threat to help people and institutions respond to and cope with the effects of a disaster. The South Carolina Department of Archives and History (SCDAH, 2002) points out that disaster preparedness may involve an organized structure for prediction and dissemination of timely and effective information to allow individuals who may be at risk to take action to avoid or reduce their risk and prepare for effective response. The SCDAH (2002) further argues that disaster preparedness may not actually prevent disasters (especially the rapid onset) from striking but vulnerability of the people and institutions likely to be affected may be reduced.

In the field of records management, disaster preparedness is viewed as the planning for the protection of records and records systems against risk so as to ensure the continuation of business during and immediately after a disaster (CODICE, 2011). According to CODICE (2011), this might involve use of different techniques such as: Identification of vital records; Identification of potential risks; Having predictors and protective measures such as smoke and fire detection and suppression systems, offsite storage for vital records and electronic records backup, restricted access to electronic records, use of burglar-proof doors and windows to check unauthorized entry to records storage rooms and disaster planning and training. A similar approach was used by the Records Authority of New South Wales (2002) who outlined the main techniques in disaster preparedness strategy as identifying resources that merit the high level protection mechanisms such as vital records, identifying and evaluating serious threats, and devising measures to reduce or eliminate those risks.

Przybyla and Huth (2004), however, observe that many organizations never develop a strategy for preventing or responding to a disaster and, even when they have a formal disaster response plan, it does not always address the need to protect the organization's records. Alabama Department of Archives and History (2003) points out that an effective records management disaster preparedness program takes into account that disasters may happen and makes contingency plans to preserve vital records so that an agency can continue to function in an emergency. The department further notes that without such a plan, it may take an agency weeks or months to function normally again, and some important records may never be recovered once a disaster is experienced. It is therefore importance to note that as Stremple and Martone (2000) contend many disasters can be avoided or at least their impact minimized by taking the time to plan ahead.

An organization derives certain benefits when it has a disaster preparedness plan in place. Przybyla and Huth(2004) outlines the following as the benefits of having disaster preparedness plan in place for both public and private organizations.

(i) Guarantee a secure environment for ongoing records storage and maintenance.
(ii) Ensure the physical safety of employees who regularly retrieve, use, and manage your organization's records.
(iii) Identify and protect records vital to your operations.
(iv) Identify and protect your archival records.
(v) Provide a framework for responding safely and efficiently to disasters when they do occur

(vi) Allow you to resume your work as soon as possible after a disaster.

2.3.5.6 Records Disaster Plan

A disaster plan is a document that describes the activities to be undertaken to prevent and prepare for disasters, the procedures for response and recovery and those proposed to respond to and recover from disasters when they occur (Lyall, 1993). As every disaster has three phases, namely, before, during and after, a disaster plan comprise of several independent but interrelated smaller plans.

The activities carried out in the 'before phase' corresponds to everyday routine operations and two plans are prepared for this phase: preventive and preparedness (Ngulube, 2009). Preventive plans recommend actions that will prevent most disasters to occur such as the repair of leaking roofs, maintenance and the upgrading of security among others. Preparedness plans are designed to ensure that identified disasters can be managed and recommend actions such as the identification of vital records, identification and purchase of plastic sheeting and freezing facilities as well as training of staff to enable them to respond to a variety of disasters (Lyall, 1993).The activities of the 'during phase' are those carried out in response to an occurrence of an identified disaster. The effectiveness of the response is hinged on the preparedness plan (Ngulube 2009).

2.3.5.7 Records Disaster Control

Przybyla and Huth (2004) argue that some disaster occur due to negligence or ignoring some chronic problems that may lead to substantial information loss over time. They cite as example a sudden flood that dampens records creating the potential for mold

infestation as a disaster, whereas mold growth on records that have been stored for years in a wet basement is a disaster resulting from neglect. Kelvin (2020) asserts that planning and preparation are the major ingredients in preventing disasters from happening or minimize their destructive tendencies.

Stremple and Martone, (2000) advise that proper identification and protection of vital records is crucial in records disaster preparedness and due care must be exercised so that resources are not used to protect records with less value at the expense of more valuable ones. They further contend that vital and archival records should be identified according to well formulated policies and procedures through incorporating well informed records management experts and management across all levels.

2.3.5.8 Records Disasters in the World

Various sources (Ngulube, 2009; Hlabaangani & Mnjama, 2008; Feather, 1991; Alegbeleye, 1993; Ngulube, Modisane & Mnkoni-Saurambe, 2010; Bohem, 1996) confirm that the record and information related disasters natural, human or environmental are as old as documentation existed. Some of disasters that have struck a records or an information center in the world include are shown in Table 2.1.

Table 2.1: Records Disasters in the World

Date	Country	Institution	Disaster
47BC	Egypt	Great Library, Alexandria	Fire
373 AD	Egypt	Great Library, Alexandria	Fire
1939	Kenya	Colonial Secretarial Office	Fire – records burnt
1966	Italy	BiblotecaNazionzle	Flood
1984	Swaziland	National Archives of	Hurricane- records and private

		Swaziland	manuscripts destroyed
1985	USA	Huntington gallery	Fire -Smoke from electrical fire covered collections
1985	USA	Mount Vernon	Mould
1988	USA	New Orleans's Cabildo	fire
1989	USA	Several museums and libraries, San-Franscisco	Earthquake
1991	Sierra Leone	Government records in Pujchum,	Fire
1992	Ireland	Public Records Office,	Fire – Middle age -1790 cultural heritage destroyed
1994	UK	Norwich City Library	Fire- Collections burnt
1997	South Africa	Munitoria Building in Pretoria City Council	Fire – records dating back to 1920's
1998	Kenya	US Embassy	Terrorism – records, books and other documentary materials destroyed
1998	Tanzania	US Embassy	
1998	USA	University of Missouri	Tornado –records destroyed
1999	KOSOVO	Albania Community records	Armed Conflict –land, financial, citizenship and genealogical records destroyed
2000	Mozambiq ue	Government Records in Xai-Xai, Chokwe and Guji	Flash floods – rental and pensions records destroyed.
2001	USA	World Trade Centre and Pentagon libraries	Terrorism – books, records and other documentary materials destroyed
2003	Iraq	National Library and Archives of Iraq	Fire – Collections burnt
2004	Cayman Islands	National Archives, Cayman Islands	Hurricane Ivan
2005	USA	Public Libraries and Archives in Louisiana, Mississipi and Alabama	Hurricane Katrina and Rita
2006	USA	National Archives and Records Administration	Floods and Electrical outages
2007	USA	Lane Community College Archives at the University of Oregon	Contamination from sewage water from blocked sewage drains
2010	Chile	133 Public Libraries	Earthquake and a Tsunami that resulted after the aftershocks
2010	South Africa	5 Public Libraries, Mpumalanga	Fire – collections burnt down as part of protest action
2011	Libya	Library	NATO airstrikes on the Gadaffi

			compound
2014	Bosnia	Cultural Monuments, Cultural Institutions (museums, archives, libraries, cultural houses)	floods
2018	Brazil	Brazil National Museum	Fire - Huge fire guts Brazil's 200-year-old National Museum

Source: Ngulube, Modisane&Mnkoni-Saurambe(2010)
- https://www.theguardian.com/
- https://www.ilo.org/

2.3.5.9 Records Disasters in Kenya

Even when Kenya seems to be relatively free from natural disaster, some recent isolated cases of man-made disasters in Kenya might have affected records. Among these disasters are shown in Table 2.2

Table 2.2: Records Disasters in Kenya

Date	Place	Institution	Type of disaster
1986	Nakuru	Records at Kenya Farmers Association	Fire
1998	Nairobi	US Embassies in Kenya	Terrorism – records, books and other documentary materials destroyed
1998	Nairobi	Ufundi SACCO	Terrorism – records, books and other documentary materials destroyed
2003	Tana River	County Council of Tana River	Fire –by arsonist records burnt
2003	Nairobi	Euro Bank	Computers vandalized and hard disk mutilated
2004	Kitale	Kenya Seed Company	Fire - Records burnt
2004	Nairobi	City Council of Nairobi	Fire –records burnt
2009	Nairobi	Nakumatt Supermarket	Fire – people and records burnt
2011	Nairobi	Public institutions	Fire by terrorist, terrorist threats
2011	Garissa	Public institutions	Fire by terrorist, terrorist threats

2012	Kisumu	Civil registrar and youth offices	Theft – computers and government files
2012	Garissa	Anti-terrorism office	Arson – investigation files burnt
2013	Turkana	Immigration offices, Nandapal border point	Arson – records burnt
2013	Nairobi	Jomo Kenyatta International Airport	Fire – International arrival terminals gutted down immigration records and other sensitive data
2013	Nairobi	Westgate Shopping Mall	Terrorist attack, people killed and fire destroyed part of the building including records
2014	Kakamega	Kakamega Law Court	Fire – records and Exhibits destroyed
2015	Garissa	Garissa University College	Terrorist attack, people killed and students' records and books destroyed

Source: *Daily Nation* (1986- April 2015)

2.3.5.10 Records Disasters: Causes and Effects on Records

Disasters in records management occur not only as those sudden and unexpected events that come with a bang like earth quakes, fires and floods but there are also those that occur very slowly and quietly such as mold, water seepage, theft, progressing technology, and insufficient control of record inventory (The Harvard University Library 2010). Hlabaangani and Mnjama (2008) have classified disasters affecting records into two broad categories, naturally occurring and man-made disasters.

(i) Natural causes include earthquakes, tornado, hurricanes, typhoons, volcanic eruption, wind storm, floods and fires.

(ii) Man-made disasters include wars, and civil strife, arson, vandalism, theft, security lapse, terrorism, bomb threat, strike, labour dispute, strikes, power

failure or electrical faults, water leaks or drainage problems, or mishandling and human error

Human action related disasters can also be in the form of technological such as hardware and software malfunction, viruses, electromagnetic interference, power fluctuation or theft of computers (Byrne, 2009). Other human related records disasters may include chemical spill, building collapse, nuclear fallout, radiation, explosion transport accidents, rodents and insects (CODICE, 2011).

Przybyla and Huth (2004) assert that records disasters may also occur due to poor storage or unfavourable environmental factors such as uncontrolled light, dust or extreme temperatures and humidity caused by a broken humidifier or a shutdown temperature control. These (environmental) conditions encourage both physical and biological agents of deterioration on paper as well as electronic media thereby causing natural decay of materials composing the media eventually leading to the loss of some or all of the records. Roper and Millar (1999) observe that even a slight change in humidity and temperature can disturb the magnetic properties of disks.

2.3.5.11 Natural Disasters

Hlabaangani and Mnjama (2008) outline natural disasters as those caused by naturally occurring phenomena such as bush or lightening fire, flood or storm water, light, temperature, humidity and earthquakes.

(a) Fire

Fire as a records disaster can be two fold in that it can originate from natural sources such as earthquakes, bush fire and lightning strikes or started by human activities such

as arson or power failure caused by electrical overload through the use of electrical appliances, such as desk lamps, heaters, computers, power boards and other equipment as well as chemicals such as paints stored in the records room or smoking within the building (Jeyarat, 2000; UNESCO 1999). Fire causes paper to char and crumble when handled. Smoke and soot discolor the fire-spared records. Microforms and audio-visual materials can be completely destroyed or damaged beyond repair. However, it should be noted that a great threat to records is not the fire itself but the water used in extinguishing the flames.(UNESCO, 1999).

As part of preventive measures against fire, Routledge (1999); Covington and Simpson (2006) and IRMT (1999) suggest that records offices should do the following:

(i) Have some form of fire prevention equipment ranging from smoke detectors, fire alarms, sprinklers to fire extinguishers.

(ii) Prohibit smoking outside designated areas. Assess fire risk from equipment, electrical and gas supplies.

(iii) Install automatic fire detection systems with smoke and heat detectors, prevention/protection equipment such as fire alarms linked to the local fire station.

(iv) The records room should have emergency exits that are clearly marked and kept clear of obstructions so that in the event of fire, there would be no confusion especially if the fire starts at the main entrance.

(v) The records staff should undergo regular fire drills that should include fire awareness, sounding fire alarms, evacuation procedures and operation of firefighting equipment. Departments should work with the Fire Brigade to provide training and advice on fire precautionary measures.

(b) Water

Water hazards just like fire hazards, can originate from either naturally or through human activities. Natural causes include flooding from heavy rains, high tides, typhoon or earthquake or when excessive run-off cannot be handled by the outside storm water drains leading to flooding that seeps into the building (Jeyarat, 2000).

Man-made causes of water damage include weak building structures, poor water-carrying systems and poor drainage that cause water to leak into the building. This often occurs when gutters are clogged with litter debris or when structural damage has occurred. Other man made causes may include leaks or accidental discharge from internal plumbing systems such as from the internal sprinklers, fire hoses, burst water pipes, overflowing or leaky office sinks, malfunctioning air conditioners or flooding in the basement area. IRMT (1999) cautions that water is more dangerous than fire, because the water used to douse fires will inevitably damage what fire has not consumed.

UNESCO (1999) note that water can cause direct and immediate damage to records and archives as well as later through creation of a moist environment that promotes the growth of mold if the materials are not well dried. Silverman (2004) in support of this claims that mould rapidly begins to form in damp conditions blanketing water-damaged collections within 72 hours after floods if the materials are not dried.

To prevent damages from water, Covington and Simpson (2006) suggest that:

(i) Records should not be stored near water pipes. The storage shelves and aisles should be arranged so that any water pipes are located over the aisles and not the shelves.

(ii) Records should not be stored in rooms that are below other rooms containing water pipes such as basements or in the attics, as these areas are often poorly insulated and very susceptible to water and weather-related damage.

(iii) Records should not be stored directly on the storage room floor to prevent damage by any water that pools or floods. They should be stored on shelves or on pallets if space permits.

(iv) The roof, windows, and foundation of the storage building should be properly maintained to ensure a stable storage environment that will minimize the possibility of weather-related damage to the records.

(c) Light

Direct light, natural and artificial is damaging to all record formats (paper, tapes, films, cassettes, computer disks, etc.) with negative impact on the stability of the records. Direct light fade documents and can also increase the temperature in the storage room. Light has a bleaching action, causing colored papers and inks to whiten or fade as is the case of sunlight on a newspaper. Light in the form of ultraviolet light, present in both natural and fluorescent light, generates heat and radiation that speed up the process of degradation of paper (Millar & Roper, 1999). To control natural light, Millar and Roper (1999) advises that:

(i) Curtains or blinds should be placed over windows and by installing awnings over the outside of windows, particularly in areas receiving direct sunlight.

(ii) Filters in the form of plexi glass or plastic screens or blinds should be placed over windows.

(iii) Records to be stored in boxes and always re-filed after use.

(iv) Records should be stored in an area without windows and lights put off when the area is not in use. Ultra-violet sheaths should be installed on florescent lights (Roper and Millar,1999)

(d) Temperature and Humidity

Higher temperatures speed up the chemical processes thereby deteriorating records. Temperature should be maintained within low but comfortable limits for people to work in as high or fluctuating temperatures cause damage to all record formats. Temperature fluctuation is more damaging than a constantly high temperature (Roper & Millar, 1999).

Highly moist environment encourage mold and rust that can quickly damage most records formats. Extremely dry environments cause paper, film, and other materials to become brittle. The ideal combination is a low temperature and relatively low relative humidity: ideal levels are temperature at 18-20^{o}C and relative humidity at 35% to 40%. Temperature should not exceed 20^{o}C and relative humidity should not exceed 50% (CODICE, 2011; Roper & Millar, 1999) or higher, but constant temperature and relative humidity. The State Archives Department, Minnesota Historical Society (2003) advises that maintaining a constant temperature of 75°F and a constant relative humidity of 60% is better than allowing the storage environment to vary. The use of de-humidifiers, humidifiers, and air-conditioning can help maintain a good environment.

(e) Earthquakes

Earthquakes cause collapsing or tilting of building structures, collapsing of shelving or storage units throwing contents on to the floor, computer damage and lost data from

power losses, water damage from collapsed pipes. Earthquakes can also lead to tsunami, or tidal waves that can lead to water and flood damage. Fire is also a great hazard in the aftermath of an earthquake, and the water used to extinguish those fires becomes another hazard (Millar, 1999). As observed by Routledge (1999) it may not possible to eliminate the risk of a natural disaster such as earthquake but careful planning will help to minimize the effects of such disasters.

2.3.5.12 Man-Made Disasters

Man –made disasters result from human actions. Such actions include handling/storage, air pollution, theft and vandalism, armed conflict and terrorism, technological development as well as biological agents.

(a) Handling and storage

Many times records are damaged through handling. Papers are often folded, bent or rolled. Improper storage and handling can cause files to tear. Computer tapes, disks, audio cassettes, and reels become damaged through over-handling, careless storage or exposure to magnets or magnetic fields.

Care must be exercised to ensure permanent records are not curled, folded, or bent in storage. Tapes or metal fasteners such as staples, metal paper clips, and post-it notes should not be used on permanent records as they leave stains on the paper which accelerates deterioration. Information material should not be stored together with non-information materials as pointed out by Hlabaangani and Mnjama (2008). If this happens, there is no guarantee for effective control of environmental conditions and access to storage areas. Hlabaangani and Mnjama (2008) observe that where records are

housed alongside other non-information materials, it would be difficult to control the environmental conditions to suit the information materials hence the materials may deteriorate and get damaged. They support their argument by saying that theft and mutilation of information materials may be rampant because those who also use the storage facilities would have free access and vulnerability of the materials would definitely be increased. They further state that other causes which include poor storage, unfavorable environmental conditions, inadequate security that lead to break-ins and theft and poorly maintained buildings.

(b) Air Pollution

Air pollution is caused by industrial gases, chemicals or car exhaust. It also brought about by:-photocopiers, cleaning supplies, paints, and even sea water for areas close to the ocean. These pollutants damage equipment as well as promoting the deterioration of records and archives. Dirt, dust and other particles absorb gaseous pollutants, which then penetrate materials as they are acidic. Pollutants cause metals fastener to rust which in turn 'eat' the paper as rust is abrasive. If particles settle on an item and then become moist through high relative humidity or water damage, they can leave permanent stains on the records (Millar & Roper, 1999). This stains speed up the aging process leading to loss of vital information.

To control the effects of pollution some suggestion from Millar and Roper (1999) include:

(i) Storing Records in boxes, containers or file cabinet to keep out dust and dirt.

(ii) Prohibiting smoking, eating or cooking near records or archives.

(iii) Dusting and cleaning regularly and thoroughly to keep dust particles at a minimum.

(c) Acidity

Paper-based materials contain high quantities of acid which weaken and deteriorate the structure of the paper causing it to degrade. Acid can also be found in ink, adhesives and the chemicals used to process the records including photographs. Archival materials that are acidic are easily affected by poor environmental conditions leading to lose of stability and longevity. Inks can also contain high levels of acid. Acids in ink burn through paper resulting in fading over time especially when exposed to light. Many adhesives contain high levels of acid and it is never appropriate to use adhesive tapes to repair records. Materials that are already brittle should be photocopied onto acid-free paper (Burford, 2005).

(d) Theft and Vandalism

Security systems are critical for the protection of records and archives as theft and vandalism of paper records and computers may lead to a records disasters (Ngulube, 2003). To protect records and computers against theft or arson, the following steps if taken will ensure enhanced security of records:

(i) Restrict entry in records storage areas to authorized personnel only.

(ii) Ensure all access points to buildings or storage areas are fitted with locks, and ensure the doors are locked and keys only provided to authorized personnel whenever possible.

(iii) Institute a program for issuing and wearing security passes that clearly identify and distinguish different categories of staff (permanent and temporary) and visitors (contractors' staff, regular users, casual visitors).

(iv) Ensure that all visitors are supervised all the time they are on the premises.

(v) Install intruder alarms to warn of unauthorized entry.

(vi) Hire a twenty-four hour security service.

(vii) Ensure that all security measures apply not only to visitors but also to staff.

(e) Armed Conflict and Terrorism

Millar (1999) observes that in countries or regions facing war, armed conflict or terrorism, records have been targeted and destroyed or damaged beyond repair. Buildings are damaged leading to lost communications and power sources, theft, vandalism, fire and water damage. United States Department of State Publication (2016) observes that in recent times terrorism has also become an issue and a major threat to not only the target people but also to records and books in information centers. Among the key actions to take to protect vital records as suggested by Millar (1999) are:

(i) Prepare lists of vital records and evacuate them to secure storage if an emergency is imminent.

(ii) Copy inventories and store copies in various off site locations.

(iii) Make copies of critical records on microform or another medium and store the copies securely in a separate location.

(iv) Raise awareness of the importance of records and archives among the military, security forces and police, so that they may take steps to protect records and archives during a conflict.

(f) Biological Agents

As Roper and Millar (1999) observe, biological agents that include Pests such as rodents, termites, silverfish, cockroaches, book-lice and beetles and molds are known to eat, soil, stain and shred records. Rodents such as rats and mice eat paper records and use papers to build nests. They are also known to chew electrical insulation, which can result in short circuits and fires. They are attracted to warm, dark environments passing through cracks or holes in walls.

(i) Environment where permanent records are stored should be clean, dark, cool, dry and away from food areas that will attract rodents.

(ii) Insects feed on the nutrients found in paper-based products, particularly adhesives and starches. Insects are also attracted to damp, dark and dirty locations.

(iii) Food and drink should be prohibited in the records storage area.

(iv) The temperature and relative humidity should be controlled.

(v) All cracks along floors and walls and holes around pipes plugs should be sealed to limit the entrance of insects from outside.

(vi) Live plants or flowers attract insects. They should not be kept in the records storage areas. The storage areas should be cleaned on a regular basis particularly behind shelves and in dark areas.

(vii) Mold grows in dark, damp, hot environments and in still air. They cause blackening of water-damaged collections if not thoroughly dried. Mold also feeds on dust and

food particles. Air circulation should be enhanced with ceiling fans or ventilators. Records storage areas should be cleaned and dusted regularly and food should be prohibited in storage or work areas

(f) Technological Development and Use of Information and Communication Technologies

Information is increasingly created, accessed, and stored electronically. In offices, a number of business transactions and communication are now handled using the internet (Ndung'u, Lewis & Mothobi, 2019). The Kenya Ports Authority, the Kenya Revenue Authority, Huduma Centers and many other offices have computerized their operations to speed up service delivery and enhance transparency. This has contributed to the development and application of e - commerce in the country. Electronic records are stored on media and devices—magnetic tape, CDs, DVDs, detachable hard drives, computers, and servers (Waema & Ndung'u 2012).

However, several characteristics of electronic records make them vulnerable in ways that paper records are not. Among the vulnerabilities of the electronic records include:

(i) Power Failures

Power failures even for a short time has been found to cause disastrous consequences especially on electronic data and computer programs that have led to loss or corruption of information. Power failure may also cause the environmental controls to be disabled, leading to fluctuations in temperature and humidity. Some of the suggested solutions for countering power failure include:

a. Stremple and Martone (2000) suggest that organizations should provide uninterrupted power supply (UPS) devices to all internal and web servers. The servers should be enabled with software that allows them to shut down gracefully, saving and/or backing up data as needed before the available power expires.
b. Desktop systems should be replaced with Laptops with built-in battery backup where possible.

(ii) Computer Hardware and Software Failure

Some hardware issues such as System Memory Errors can lead to severe data loss situations. System Memory Errors corrupts hard drive data structures and even the data. Others are System Timing Issues or System Resource Conflicts where computer systems have a number of peripherals that are using several system resources concurrently thereby leading to data loss or data corruption. This may lead to damage of the hard drive data structures (Data Recovery Software Group, 2000).

(iii)Viruses

Data loss can also be occasioned by the transfer of viruses and other malicious software. The portability of electronic records make it easier for unauthorized people, both inside or outside the organization to gain access to organizational information and data or highly sensitive personal financial records such as credit cards, bank accounts, land or property title documents or medical records (Waema & Ndung'u 2012). Access may be achieved illegally by 'hackers' and the records or data are prone to theft, damage, loss or lead to violation of the right to privacy of the owners. In their active use the records or databases with organizational or personal, financial or medical information need to

be tracked. Audit trails need be established to identify who accessed, when they were accessed and whether any action was taken or changes made to the records.

Possible solutions to virus and unauthorized access include:

a. The physical infrastructure that include physical access controls, intruder detection systems, fire detection and suppression systems, and backup power supplies. Access may be restricted through use of metal grill in registry counter or separating confidential files from other general files in locked areas (Ndung'u, Lewis & Mothobi, 2019).

b. Use of information technology (computer) systems that provide protection against intrusions by external hackers and other unauthorized users, and damage caused by malicious code or other forms of software designed to infiltrate or attack the computer system. Counter-measures may include the use of password controls, firewalls and anti-virus software.

2.3.6 Public Archives and Documentation Service Act

The Public Archives and Documentation Service Act of 1965 (revised 2015) established the Kenya National Archives and Documentation Service (KNADS) and provides for the preservation of public records and archives. The Act requires the Director of KNADS to examine public records and advise on their care and custody. It focuses on the collection, preservation, control and access to archival records. The Act assigns responsibility for managing public records to the Director of Kenya National Archives and Documentation Service. While it does not specify at what stage in the records management cycle the Director should assume this responsibility (Mnjama 2003), most

government ministries, departments and parastatals assume that it is the responsibility of the archives staff to deal with all aspects of records thereby neglecting records immediately after the active stage. KNADS however focuses on the management of the entire life cycle of records rather than managing only the archival preservation stage.

While the aspect of records disaster management is very silent and only implied rather than mentioned in the Act, the concept of the director examining records and advising on their care, preservation and custody, should be interpreted to mean taking all practical steps necessary to ensure safety of records against agents of deterioration including records disaster prevention, preparedness and control.

2.3.7 The National Policy on Records Management

A National Policy on Records Management was developed by the Ministry of National Heritage and Culture in 2008 in an attempt to find solutions to the problem affecting public sector records management in Kenya. It underscores the importance of having a Disaster preparedness and continuity plan for the protection of all records.

2.3.8 The Records Management Procedures Manual for the Public Service (2010)

This manual was developed in 2010 by the Ministry of State for Public Service in the office of the Prime Minister. Chapters eight and nine deal with security of records and disaster management respectively. Chapter eight provides precautionary measures to protect records against unauthorized access, fire, water, pests, light and dust. It directs that only the authorized personnel should access records storage areas and doors keys and locks to be controlled by a responsible officer. The storage rooms for classified

records to have burglar proof doors and windows, fire proof and lockable cabinets and the officers manning, using or handling records to be security vetted.

For protection against fire, it directs that regular fire drills for staff be conducted among other precautionary measures. In the manual, water precautionary measures include ensuring that records are not placed on the floor at any one given time among others. Cooking and storage of food in the records storage areas to be banned to keep off pests and also prevent fire outbreak.

2.3.9 Challenges in Implementation of Disaster Preparedness Plan

The problems facing implementation of records disaster prevention and preparedness plan have same bearing as those leading to poor records management in Kenya. It is therefore prudent to discuss the problems facing records management in Kenya and then allude that the same are behind poor implementation of records disaster prevention and preparedness programs in government departments and agencies in Mombasa County and Kenya in general.

Bwire (2019) associated the challenges facing the management of records and archives in Kenya to legal historical, political, cultural, managerial and technological background. They argue that the main causes of poor records management in Kenya are due to absence of organizational plans for managing records; low awareness of the role played by records management in supporting organizational efficiency and accountability; lack of stewardship and coordination in handling records; absence of legislation, policies and procedures to guide the management of records; absence of core competencies in records and archives management; absence of budgets dedicated

for records management; poor security and confidentiality controls; lack of records retention and disposal policies; and absence of migration strategies for records.

According to Gwinn (1987), in many developing countries, most materials are still being produced on acid-based wood pulp paper. Many countries in the developing world have not taken significant steps to improve the quality of paper used in producing works of permanent value such as requiring the use of acid-free paper through government legislation. According to a study conducted in registries in Ghana by Akussah (2002), only a few number of registries know the source of the paper being used to create their records. There were no standards for the quality of paper used in developing countries as is the case in America, Britain and India.

Lack of appropriate funds has been cited by many scholars and researchers as a contributing factor to poor records management in Kenya. Burns, Ferris and Liatsopoulos (2008) argue that nearly all the problems facing Records management efforts in Africa have their roots in lack of funding. They argue that appropriate funding is needed to implement and uphold records management legislations for the current structure of public sector records management to realize any significant change. With many governments unable to offer as much funding as is needed to establish or maintain records management practices and supporting personnel, the success of the entire system is in jeopardy (Burns, Ferris &Liatsopoulos, 2008).

Musembi (2004) argues that the archivists themselves have played a damaging role by misappropriating the scarce finances which he believes is one of the most important causes of archival underdevelopment in Third World countries. Mnjama (2003) in

support of this fact observes that lack of appropriate funding has led to use of inappropriate buildings to store records and lead to accidental ruining of the records due to temperature and water issues. Githaka (2006) points out that lack of funds are prevalent both at the Kenya National Archives and public institutions.

Lack of Staff and Appropriate Training has also been a challenge to both the Kenya National Archives and the public institutions. Githaka (2006) points out that the problem of poor records management is compounded by low quantity and quality of staff at the Kenya National Archives and apathy among top government officials in public institutions. Mnjama (2003) observes that most civil servants do not have appropriate education in RIM or archival techniques that allow them to do the best job with the records. Ngulube (2008) note that the problem is made worse by the fact that the few that are trained in Europe and North America return with highly marketable skills and rarely remain in public service. However, he observes that equipping information professionals with skills and knowledge in collection management is the way out of the quagmire as allocating resources without training staff in records management will be an exercise in futility as funds are 'never enough' (Ngulube, 2008).

Poor records management practices have also been linked to old and failing records management infrastructure. Abioye (2007) argues that the majority of the existing records management facilities were built shortly after independence using funds from international institutions and former colonial Powers. This funding has since ceased and maintenance needs occasioned by changing space requirements due to increased

number of records and technological changes have led to the need for changing infrastructure and storage methods to house the records being created.

Mnjama (2003) while in search of the root causes of poor records management in government registries presumes the following as possible causes:

(i) Failure by senior managers to establish acceptable recordkeeping goals and practices.
(ii) Failure to hire competent and qualified staff in the area of archives and records management.
(iii) Failure to provide adequate storage facilities thus causing registry staff to lose morale and motivation.
(iv) Failure to encourage training in records and archives management.
(v) Lack of administrative and financial support to those working in registries.
(vi) Failure to implement various recommendations on the management of records.
(vii) Failure to emphasize on introduction of ICTs as a means of solving information management problems.

Another major challenge facing records management in Kenya and Africa is that of governments moving towards e-governance. Although progress towards e-government seems to be the direction of the modern and future records manager, there is the incorrect assumption that automation is the only way to get information for quick decision making and as such the paper based records that constitute the national memory of the government are neglected (Burns et al., 2008). A study conducted by Kemoni (2007) in Kenya public sector found that record creators are faced with: inadequate filing equipment for records; insufficient records storage space; lack of

training for personnel working in registries and inadequate knowledge of records disposition procedures.

2.4 Chapter Summary

The review of available literature has shown that various types of records created, received, maintained and used in government offices include administrative records, financial records, legal records, personnel records, employee personal files, manuals, handbooks, newspapers, newsletters, brochures and promotional materials. These records are in various formats such as paper, roll microfilm, microfiche or computer output microfiche (COM), microforms; audiovisual records; electronic records; three-dimensional models, scientific specimens, cartographic records, architectural and engineering drawings, pictures (iconographic records) or computer printouts, handwritten (manuscript).

The literature reviewed has identified various disaster that can cause great damage to records and the existing disaster preparedness practices that can be applied in Government offices to pre-empt effects of such records disasters whether natural or man-made. The chapter has ended by looking at the challenges experienced in implementing such disaster preparedness programs have been highlighted.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research design and methodology used in investigating levels of records disaster preparedness in public institutions in Mombasa County. The research investigated the existence and effectiveness of counter disaster strategies in place to establish if they are adequate in responding and pre-emptying the effects of disaster to ensure continued smooth running of government operation in the event of a disaster strike. The chapter discusses the approach adopted for the study, that is, mixed methods and its philosophical basis to inform the study. The study population and the sampling method used as well as the instruments for data collection and the methods of data analysis are discussed. Finally the chapter discusses the method used to test validity and reliability of the data collecting instruments. Lastly the chapter discusses the ethical considerations taken in the study.

3.2 Research Approach

This study adopted a mixed research approach whereby both quantitative and qualitative methods were used to interrogate the disaster preparedness strategies in place that are aimed at preventing or mitigating effects of disasters in public offices within Mombasa County.

In this research, both quantitative and qualitative methods were used sequentially to complement each other for a more complete analysis of the research problem. The researcher used the qualitative research paradigm in one phase of a research study and the quantitative research paradigm for another in order to understand the research

problem more completely as noted by Creswell (2003). In 2007, Creswell and Plano Clark (cited by Cameron, 2011), argues that the central premise behind using quantitative and qualitative approaches in combination was to provide a better understanding of research problems than either approach. They further argued that when using mixed method, the disadvantages of one method are closed by the advantages of the other and vice versa. Migiro and Magangi (1994) contend that the rationale behind using both methods is that neither a quantitative nor a qualitative method alone will be adequate enough to collect intended data both in quantity and quality that entails gathering the participants view, skills, experiences and background impediments.

The investigation focused on the purposively selected departments and personnel in the respective departments for interviewing. The expectation of the researcher was that the mixed methods design would meet the objectives of the study, namely, evaluating the quantity and quality of strategic measures in place for disaster prevention, preparedness and mitigation in government departments and agencies within Mombasa County and to understand the challenges encountered while implementing these disaster preparedness strategies. This is aimed at giving the study a stronger basis in declaring whether or not the offices are disaster prepared. Researcher own knowledge of these departments together with the help of the heads of departments guided in selecting the participants.

To ensure data reliability and validity the researcher employed more than one technique (triangulation), that is, using different types of data collection techniques such as interviews and nonparticipant observation to examine the variables as proposed in

Onyango (2002). Data analysis was done using thematic categorization based on objectives.

3.3 Research Design

A research design is a plan or guide for data collection and interpretation that guides the researcher in planning and implementing the study in a way that is most likely to achieve the intended goal ((Saunders, Lewis & Thornhill, 2009).

It is a plan and structure of investigation that assists the researcher in obtaining answers to research questions. This Study applied the survey research method. A survey research method according to Hale (2011) is a method in which participants answer questions administered through interviews or questionnaires and then researchers describe the responses given by the respondents. The researcher collected data from the target population using closed and open ended questions in one to one interview about their skills, experiences, perceptions, attitude, behaviors, opinions and suggestions regarding challenges that impeded records disasters management implementation and then used non-participant (direct observation) to collect information on "what exists" with respect to the situational variables and the effectiveness of such strategies in minimizing loss in recorded information in the event of disasters.

Even though descriptive survey design has been found with a number of inherent weaknesses, such as misinterpretation, slow response (when questionnaires are used) and some respondents not giving honest answers, the approach has been exploited successfully in other similar studies (Hlabaangani & Mnjama, 2008; Ngulube *et al*, 2010) in giving qualitative descriptions and explanations to the quantitative data

provided by respondents. The researcher countered this by making advance notification of the survey to respondents and convinced respondents on the importance of the study. The researcher also formulated consistent interview questions in clear simple language and clarified issues where the respondent did not comprehend questions.

3.4 Research Setting

The study was conducted in the National and County Government departments and agencies within Mombasa County.

3.5 Study Population

The study population comprised government departments and agencies within Mombasa County. Data was collected from heads of departments and the professional records management officers who are expected to spearhead the implementation of records management programs in their respective departments. These departments include:

(i) National Government departments at county level – 46

(ii) County Government departments at county level – 18

(iii) State Corporations–14

A list of all departments within Mombasa County obtained from the District Treasury and Regional Coordinator's office and the Mombasa County Government's department of Public Administration was used as the sampling frame (see appendix IV).

3.6 Study Sample

Some of the elements in the study population were small offices with no functional registries. The researcher therefore could not collect and analyze data from all departments. A sample of the population with a true representative of the whole group was used in the study. The formula used was.

$$N^a = \frac{N \times 100}{N^e\%}$$

Where N^a is the actual sample size required,

N is the minimum (or adjusted minimum) sample size

$N^e\%$ is the estimated response rate expressed as a percentage (Saunders, Lewis & Thornhill, 2009).

With a study unit of 78 offices and a minimum sample size of 26 offices and an estimated response rate of 70% the actual sample was as calculated below:

$$N^a = \frac{26 \times 100}{70}$$

Actual sample size was Na = 37 offices

A sample size of 37 respondents gave a good representation of the whole population.

3.7 Sampling

3.7.1 Sampling Methods

The study used non- probability sampling method. In this sampling procedure, items were selected deliberately based on the judgment of the researcher that the selected items were duly representative of the study population. This sampling method is used when the focus is on in-depth information more than generalization (Mugenda and

Mugenda 2003). The need for in-depth data collection for this study demanded for respondents that were more knowledgeable through experience in records management and disasters so as to provide first-hand information on their experiences and skill with records disaster management.

3.7.2 The Sampling Techniques

A purposive sampling technique, also known as judgment sample (Marshall, 1996), or a theoretical sample (Attewell and Rule, 1991) was used in this study. It is a type of non-probability sampling where the units to be observed are selected based on the researcher's judgment about which ones will be the most useful or representative.

By using this sampling technique, the researcher interviewed heads of departments and records management officers (where they exist) on their current and past work stations. The combined knowledge of these officers would enable the study to obtain an in-depth understanding of the factors that impede the implementation of records disaster preparedness programs in Mombasa County.

3.8 Data Collection Methods

Two data collection methods were employed in this study: the interviews and observation methods.

3.8.1 Interviews

The study used one-to-one face-to-face interviews where the researcher asked the respondent closed as well as open-ended questions and made more probes where appropriate to yield in-depth responses about respondent's experiences, perceptions,

opinions, feelings, and knowledge. The study used semi-structured forms that used pre-planned questions where the interviewer generated more probes in response to interviewee's response. Key questions in the interviews were asked in the same way for all participants followed by some limited follow-up questions for further information or clarity depending on the response.

Generally, records disasters preparedness was not a well understood field and most people were not very familiar with its details. The researcher used semi-structured one-to- one interview methods so as to clarify issues to the interviewee for elaboration, cross examination and intensive probing in cases where their responses do not add up. The interviewee got the opportunity to talk freely about his experiences of events, behavior, beliefs and skills on issues relating to the records management practices and disasters.

3.8.2 Observation

The researcher used direct observation method to verify some of the information gathered from the interviews. Elements observed included the existence and functional conditions of the facilities to prevent, control and mitigate the effects of disaster impacts as well as the unprofessional behavior among registry staff such as eating and drinking in the registry and storage of water and other chemicals with records as well as non-registry staff gaining unauthorized access into the records management unit. A full list of what to be observed is attached as appendix II.

3.9 Data Collection Instruments

3.9.1 Interview Schedules

Semi-structured interview schedule was used during the interviews. It was used during face- to- face interview with heads of departments and the records management units' personnel in order to clarify issues not familiar to the respondents.

3.9.2 Observation Checklist

An observation checklist was used as guiding tool for the researcher on what to observe and collect data from during observation (see appendix II).

3.10 Validity and Reliability of Data Collection Instruments

3.10.1 Validity of Data Collection Instruments

According to Joppe (2000), validity of a research study is its ability to truly measure that which it is intended to measure and produce truthful research results. To achieve valid results, a pilot study was conducted prior to the actual research study in order to identify deficiencies in the instruments, variables and respondents. The validity was also ensured by asking similar questions to different respondents and since validity can be compromised by asking leading questions, the interviewer tried his best to avoid asking leading questions. The use of more than one instrument (interview guide and observation check list) to collect data from a larger sample size also enhanced validity.

3.10.2 Reliability of Data Collection Instruments

According to Joppe (2000) reliability refers to the consistency of measurements and how replicable they are, that is, the degree to which an instrument measures produce the same result each time it is used under the same conditions. In order for this study to get

consistent answers, similar interview schedules and observation checklists was designed and applied to all respondents. Reliability was achieved by increasing the number of observations made for each variable.

3.10.3 Pretesting Data Collection Instruments

Validity of the interview schedules and observation checklist was tested by piloting these instruments with a small representative of the target population but who were not the sampled individuals. The researcher had prepared a pre-test checklist in order to identify the deficiencies from the schedules. The checklist was administered together with the schedules to the intended testers. A total of 10 testers were appropriate to identify the deficiencies.

3.11 Data Presentation, Analysis and Interpretation

Data was presented in tables and charts. Data analysis was done either qualitatively or quantitatively. The quantitative method was used to analyze the statistical data. The statistical data was then analyzed using tables and charts. The qualitative method was used to identify skills, experiences, attitudes, opinions/ ideas on disaster management. Thematic analysis was used to identify, analyze, and report patterns (themes) within data. The data was analyzed by constructing analytical narratives, explanations and descriptions. The process involved identifying patterns and themes from the data and drawing certain conclusions from the outcome of the study.

The two phases of data analysis occurred sequentially in which the quantitative analysis phase preceded the qualitative analysis phase. The two analyzed data were merged towards the end and interpretation given to identified patterns. Analyzing data in table

and charts made it easier for the researcher to interpret the data. The researcher then gave meaning to the patterns that emerge from analyzed data.

3.12 Ethical Considerations

When conducting the research, two ethical behavior patterns were used as guiding principle. These are confidentiality and plagiarism. The anonymity of respondents was taken into consideration by ensuring that only those who wished were identified by names in the interview schedules. After data collection, their identities were not taken any further. The researcher provided reference to all sources and adequately acknowledged them to ensure the research work is plagiarism free.

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents the data gathered through interviews and observations made during the study. The aim of the study was to evaluate records disaster preparedness strategies employed by government departments and agencies within Mombasa County with a view to determine their effectiveness in reducing damage to records throughout their life-cycle and particularly in the event of a disaster.

Data is presented mainly in the form of descriptive narrative as well as charts and tables. Data gathered using interview guide and observation checklists was integrated within three thematic areas of the study namely:

(i) Existence of disaster preparedness strategies and their reliability in prevention and response in the event of records disasters.

(ii) The records disaster prevention and control strategies in place and their effectiveness in pre-emptying the effects of records disasters.

(iii) The challenges faced by departments that hinder them from implementing effective records management programs and specifically disaster preparedness programs.

The design of the interview guides and observation checklist ensured that data captured was relevant in achieving objectives of the study. In order to maintain confidentiality, the names of the institutions are only disclosed where absolutely necessary and positively.

4.1.1 Participants of the Study

Data was gathered from 37 departments. The participants of the study were the heads of departments and heads of records management units or those charged with records management duties. The prime target in any department was the head of records management unit but where they did not exist, the researcher turned to the heads of departments. Where two or more participants from the same department availed themselves for the interview, the researcher interviewed all, consolidated their skills and experiences but treated the department as a single element of the population.

4.1.2 Response Rate

Response rate is the percentage of respondents in a sample who avail themselves for the study (Nachmias & Nachmias, 1996). In this case, the sample size was 37 departments out of total population of 78 departments. The researcher successfully interviewed officers from 37 (100%) departments where eight (22%) were heads of departments while 29 (78%) were heads of records management units. The high response rate was attributed to the researcher's familiarity with the respondents with whom he interacted on daily basis during routine records survey and appraisal visits as an employee of the Kenya National Archives and Documentation Service – Mombasa Records Centre in addition to having research permit from the National Council of Science, Technology and Innovation (NACOSTI). Table 4.1 shows the nature and number of respondents from the different levels of government and response rate.

Table 4.1: Nature of Respondents and Response Rate

Departments	Population size	Sample size	H oD (%)	RM staff (%)	Response rate (%)
National Government	46	23	14	48	62
County Government	18	9	5	19	24
State Corporations	14	5	3	11	14

4.2 Presentation, Analysis and Interpretation of the Survey Data

In this section, the findings of the survey are presented, analyzed, and interpreted in accordance with the research questions derived from the research objectives The National Archives of Australia Disaster Preparedness Manual for Commonwealth Agencies (2000**)**, the Queensland Public Authorities Guideline on Disaster Preparedness and Response for Public Records (2012) and other local policy guidelines were used as points of reference.

4.2.1 Existence of Disaster Preparedness Strategies and their Reliability In Pre-Emptying Effects of Records Disasters.

The first objective of the study was to establish the type of records disaster preparedness strategies that were in place within government departments and agencies and determine their reliability in pre-emptying effects of a disaster. The National Archives of Australia Disaster Preparedness Manual for Commonwealth Agencies (2000**)** and the Queensland Public Authorities Guideline on Disaster Preparedness and Response for Public Records (2012) identified the following as elements of records disaster preparedness: Establishment of records disaster management committees; Identification and assessment of potential threats to records; Identification of vital records;

Establishment and training of a disaster response and recovery team; and procurement and gathering together of disaster response and recovery resources

4.2.1.1 Establishment of Records Disaster Management Committees

The researcher investigated whether departments had constituted records disaster management committees. The study found out that three (8%) departments had emergency management committees. In the three departments the committees were established to manage all forms of disasters. They were established to ensure that organizational human resources and other valuable assets were secure in the event of disasters. However, only one (3%) out of the three departments whose disaster management committee had prepared a records disaster preparedness plan. In the other two departments, the disaster management committees had not captured records disasters management in their action plan and therefore they had no records disaster prepared plans or established records disaster response and recovery teams. The rest 34(92%) departments had no disaster management committees or records disaster response and recovery teams.

The researcher also established that during the preparation of the plan about fifteen years to the study, potential threats were assessed and a records disaster response and recovery team constituted and trained. The committee also gathered necessary emergency response resources. However, a probe into the plan, revealed that the plan had never been reviewed since inception despite having a section requiring its review after every five years.

Having disaster management committees with no mandate on records disaster management in the other two departments made them no better than the other 34(92%) departments without such committees. Departments with disaster management committees should have as part of their mandate, the development of a records disaster management plan as a form of records disaster preparedness (The Queensland Public Authorities Guideline on Disaster Preparedness and Response for Public Records 2012). An effective disaster preparedness program should be based on a well-planned, logical, comprehensive and documented strategy (the State Records Authority of New South Wales, 2004). Formal procedures are very crucial in the identification and assessment of potential threats to records, identification of vital records and ensuring that computer system programs are backed up on a regular basis. Without a records disaster preparedness plan, non-vital items like supplies are likely to be salvaged at the expense of valuable documents (The State of Michigan Records Management Services 2009). Records disaster preparedness plans are vital in ensuring procedures for prevention are followed and those proposed to respond are identified, notified and prepared well while resources for recovery are dispensed when disasters occur (Lyall,1996)

Failure by 36 out of 37 departments to have records disaster management plan foreshadowed that panic and confusion would arise if a disaster strikes as wrong people, wrong procedures and wrong equipment and tools would be deployed in response and recovery thereby exacerbating the already damaged records.

Failure to develop a records disaster management plan also contravened the requirements of the Kenyan National Policy on Records Management (2009) and the

Records Management Procedures Manual for Public Service (2010). The National Policy on Records Management (2009) which requires every government ministry, department and agency to develop a records disaster management plan to guide in identification, protection and provision of special attention to vital records. Chapter nine of The Records Management Procedures Manual for Public Services (2010) also emphasizes on the need to have a records disaster management system in all ministries and public institutions.

4.2.1.2 Identifying and Assessing Potential Threats

The researcher investigated whether departments had identified potential threats to records in print and non-print media and safeguarded them. The study found out that no formal assessments of these risks had been done in 36 (97%) departments. However, in four (11%) departments, paper-based records were comprehensively secured against potential threats as majority of records were locked in metallic drawer cabinets and strong-room vaults.

Only four (11%) departments used the appropriate records storage facilities while over 33 (89%) departments used inappropriate records storage facilities Three out of the four departments had unwittingly put in place certain measures (out of need to protect and not from any formal protocol) and these measures had gone a long way in preventing or mitigating the potential threats. In 32 (86%) departments, records were kept in lockable metallic cabinets thereby securing records against water, light, dust, fire, insects, rodents and theft/vandalism. However, in these same departments some records were

kept in wooden cupboards (32%), open wall shelves (43%) and closed wooden wall shelves/racks (5%).

Keeping records in wooden cupboards, open wall shelves or closed wooden shelves exposed them to unfavorable light, dust as well as biological agents such as rodents and insects. In the same note, wood is easily combustible and accelerates fire and therefore inappropriate for records storage (Karen, 2009).

In other 13 (35%) departments closed files were stored on top of cabinets, on the floor of offices, registries and neglected stores while in another one (3%) department, un-appraised records were dumped on the floor of a storage room and had been destroyed by droppings from birds (doves) that perched on naked closed records. In yet another one (3%) department, closed records were stored in broken wooden cabinet and open wooden shelves together with unserviceable office machines such as telephone heads, fax machines, broken furniture, old tyres and water pipes in an abandoned open walled structure with rusty iron sheet roof. These records had never been appraised to establish whether they should be destroyed or transferred to the archives. The researcher through observation found out that these records were already succumbing to environmental degradation due to exposure to elements such as water (humidity), excess light, biological agents, dust and theft/vandalism,

(i) Precautions Against Fire

To establish whether departments were prepared to fight fire in the event it breaks out. The researcher investigated whether departments had fire suppression systems around

the records storage areas. The study found the following systems in various departments as shown in table 4:2

Table 4.2: Suppression Equipment

Fire Suppression System	No. of Departments	(%)
Fire extinguisher (CO_2/powder, water)	36	97
Hose pipe	33	89

The study found out that 36 (97%) departments had installed fire extinguishers and 33 (89%) had hose pipes. One (3%) department had neither the fire extinguishers nor the hose pipe.

The researcher evaluated the appropriateness of the devices with a view to determine the reliability of the equipment in case of fire outbreak. The researcher through physical inspection of the equipment observed that fire extinguishers had been serviced in less than six months to the study and in good working condition in eight (22%) offices. In two (5%) departments, fire extinguishers were still functional albeit having been serviced over one year before the study. In other 26 (70%) departments, the date of the last service could not be established and where visible they were last serviced over ten years to the study.

Firefighting equipment in 26 departments were not functional and therefore some departments opted to keep them in the store together with unserviceable items. The hose pipes were functional in 30 (81%) departments while in three departments under one

building, water supply had been disconnected making it impossible for the researcher to establish if they were functional.

In Kenya, every workplace and workroom should be provided with adequate, well maintained, conspicuously displayed and readily accessible means of extinguishing fire (the Occupational safety and Health Act, 2007). International best practice is that the fire extinguishers should be serviced every six months (CODICE, 2011). Departments within Mombasa County were far from meeting this requirement.

Another appalling discovery was that training on fire firefighting and evacuation procedures for records staff was rarely conducted. According to respondents, the last training and which they described as general disaster management with no bearing to records disasters management was held five years to the study and out of the 37 respondents interviewed only two were lucky to have attended. Any firefighting training and monthly drills were always preserved for the departmental emergency and fire brigade section and not for the records disaster response team.

Regular staff training in the effective use of firefighting equipment and fire suppression techniques prior to the start of fire is key to fire preparedness (FAO 2006). For an organization to be considered fire disaster prepared its employees should receive appropriate training that include weekly fire drills and annual refresher training on fire hazards prevention and procedures to be followed in case of fire break. Managers and supervisors on the other had are expected to be trained on how to use fire extinguishing systems and how to lead evacuation procedures. (ILO, 2012). There is no need for having all firefighting facilities where no one knows how to use them.

Records in Mombasa County were therefore exposed to fire disasters where only ten (27%) departments had effective firefighting equipment against 27 (73%) departments where such equipment were either lacking or were defective. None of the departments had adequately trained staff to effectively use the equipment in the event of fire disasters.

(ii) Precautions Against Extreme Temperature and Relative Humidity

To establish precautionary measures in place to safe guard records (both print and electronic) against extreme temperature and relative humidity, the researcher investigated if departments monitored daily temperature and relative humidity in and around the records storage areas. The study revealed that only one (3%) department recorded daily temperatures twice a day getting a mean temperature of 27.9^0C with a minimum of 22.7^0C and a maximum of 33.1^0C. The average humidity readings recorded at noon was about 65 %. These recordings were way above the recommended temperature of less than 27ºC and relative humidity for paper-based records OF 60% in tropical countries (CODICE, 2011). However, the department had installed wall thermometers, air-conditioners and dehumidifiers to check and contain any recordings beyond the recommended range. In the other 36 (95%) departments, temperature and relative humidity monitoring were neither monitored nor regulated thereby exposing records to effects of extreme temperature and relative humidity.

a) Threats to Electronic Records

The researcher investigated whether departments received or created records in electronic formats, the storage media in use and the security measures in place to

protect them. The study established that 22 (59%) departments received or created electronic records. These records were stored in servers (41%), CPU (59%), memory sticks (27%) and DVDs (8%) departments. The study also established that all the departments using servers to store electronic records had installed antivirus programs to protect against malicious programs and passwords to keep off hackers and unauthorized access. Some six (16%) departments physically protected their information communication technology (ICT) devices against intruders by reinforcing doors and windows. In three (8%) departments ICT equipment were protected from dust, light and extreme temperatures by use of velvet carpet on floors curtains on windows while temperatures were regulated by use of air conditioners inside the server rooms. Information in digital or electronic formats in 84% departments were therefore at risk of destruction from biological agents such as theft/vandalism and physical conditions such as extreme environmental conditions that were beyond the recommended temperature of not more than 20^{o}C and relative humidity which should not exceed 50% (CODICE 2011). As the media and devices used for storage of electronic records such as magnetic tape, CDs, DVDs, external hard drives, computer CPUs, and servers are relatively easy to carry and conceal and people were more likely to misplace or steal them, there was need to physically protecting them in 31 (84%) departments.

The researcher further observed that each office that created electronic records had its own way of maintaining, retrieving and storing electronic records. There was no documented capture of records received or sent electronically thereby formal electronic records were just but chattels. In the six (16%) departments with official email addresses, the emails lacked the appropriate metadata for authenticity purposes which

was attributed to the lack of departmental policy governing e-mail use, storage and retention. In such cases, electronic records are susceptible to unauthorized access and intentional or accidental erasure or damage making the organization vulnerable to a crippling loss of information if they are damaged and hence they should always be secured with passwords and backups.

Lack of appropriate policies for managing electronic records in a majority of departments also violated the Kenyan government policy on electronic records that expects authorized officers, accounting officers, chief executive officers and records management officers to define explicit rules and implicit etiquettes that promote sound electronic records management through formulation of policies and procedures to ensure electronic records and their documentation are retained as long as is necessary (Records Management Procedures Manual for the Public Service, 2010).

Overall, the researcher established that information records in digital or electronic formats in government departments within Mombasa County were at risk of destruction as they were exposed to various degradation elements. This could also be attributed to the lack of an electronic records disaster management policies.

4.2.1.3 Establishment and Training of a Disaster Response and Recovery Team

The study established that one (3%) department had prepared a records disaster preparedness plan, established and trained a records disaster response and recovery team. However, since the plan was prepared, about fifteen years to the study, many of the pioneer members had left the departments and the membership to the team was not clear as it had not been updated since its constitution. The study further revealed that no

training in records disaster response and recovery has been done for the last five years. Two other departments had disaster management committees but had no plan to establish and train a records disaster response and recovery team. The remaining 34(92%) departments had neither disaster management committees nor records disaster response and recovery teams. International best practice require regular reviewing, training and practicing of the disaster plan. Emergency response agencies should not assume planning is complete when a written disaster plan is produced but to keep training, practicing and improving them regularly to be ready for emergencies (Dyness et al 1972 as quoted by Sulton and Tierney, 2006) After the potential threats are identified, an emergency response team of volunteer staff should be constituted from each section of the agency to take part in salvage of records (Przybyla & Huth, 2004),. The team members must be accessible by telephone at any time (CODICE (2011). These team should be trained in response and recovery techniques with emphasis on preventive measures. Government departments within Mombasa County were yet to meet these requirements.

4.2.1.4 Procuring and Gathering Together Disaster Response and Recovery Resources

The study found out that only one (3%) department had assessed the risks to their records and taken a step further to procure most of the emergency/disaster response and recovery resources Among the items procured (shown in appendix III of this study) were blotting paper; surgical, rubber and cotton gloves; fire extinguishers; first aid kit; plastic trash bags; mops, sponges, buckets, brushes; brooms; paper towels; dehumidifier; plastic safety helmets; rubber boots; plastic aprons; face masks; scissors;

plastic crates; folding table; heaters; fans; plastic trash cans and formaldehyde solution. These items were relatively adequate for the response and recovery team to effectively respond to emergencies or disasters. However, they were kept in a separate storage room within the archives contrary to the National Archives of Australia Disaster Preparedness Manual for Commonwealth Agencies (2000) guidelines that require these items to be stored near the main entrance where they are easily accessible to emergency response teams. However, large and/or expensive items such as portable pump, dehumidifier, folding tables, portable generator, wooden pallets large fans, wet/dry vacuum cleaner may be purchased or hired when required.

4.2.1.5 Identification of Vital and Archival Records

The researcher investigated whether departments had identified vital and archival records and where these records were stored at different stages in their life cycle. Przybyla & Huth (2004) define organization's vital records are records that can assist in reconstruction and continued operations of the organization immediately after a disaster and protect the organizational legal and financial interests. These records include tax bills and receipts for the current year, property records, open contracts, active case files, records of unfinished construction projects, payroll records, and general correspondence of central offices, central boards, or committees.

Archival records are the general records that have permanent value and these include easily identifiable items or small groups of items of historical or artistic interest such as plans or drawings; diaries and personal papers of ministers; Records of personal interest such as naturalization records, crew and passenger lists; Control records such as

indexes, registers, etc. and vulnerable records such as magnetic tapes, photographic prints and films, annual reports, tax assessment rolls, board minutes. The results were as shown in Table 4.3.

Table 4.3: Identification of Vital and Archival Records

Types of records	Where stored	Frequency	%
Vital	HOD cabinet,	2	5
	Secret/confidential,	5	14
Archival	Archives	3	8
	KNADS	7	19
Unsorted records	Registry,	14	38
	Store	3	8
	Departmental Records Centre	1	3
	Departmental Archives	1	3
	Head of Departments	1	3

It was found that seven (19%) departments had identified vital records. Two (5%) departments had identified the vital records at the point of creation (active-stage) and kept them in the heads of departments' office cabinets while five (14%) departments kept their vital records in either secret or confidential registries. The study established that ten (27%) departments had identified archival records in which three (8%) of the departments had set aside rooms that served as the archives for their non-current records while seven (19%) had transferred some of their noncurrent archival records to the Kenya National Archives – Mombasa.

Twenty (54%) departments had not identified vital records or archival records and kept their records unsorted either in the registry, records center, archives or store. In 14 (38%) departments all closed records were kept in the registry unsorted, three (8%) departments kept them in a store, one (3%) department used a records center to store closed records while one (3%) office kept unsorted closed records in the archives. One (3%) department kept all its records (active, semi active and non-active) in the desk of the secretary to the Head of Department. The study found out that 27(84%) of the storage rooms were inappropriate while ten (27%) were appropriate for records storage. Only one (3%) department had an off-site storage for back-up tapes for vital records as part of the broader disaster preparedness/business continuity plan.

Failure to identify vital and archival records and the continued exposure to poor storage conditions exposed them to disaster elements pointed to the fact that most departments are likely to experience difficulty in service delivery in the event of a disaster.

4.2.2 Records Disaster Prevention and Control Strategies in Place

The second objective of the study was to examine the records disaster prevention and control strategies in place and determine their effectiveness in pre-emptying the effects of records disasters.

The study examined records disaster prevention and control strategies put in place and which should be preceded by a thorough analysis of possible threats to records. These records disaster prevention and control strategies included precautions against fire, water, temperature and relative humidity, biological agents, dust and uncontrolled (excessive) light, theft and vandalism and terrorism.

4.2.2.1 Precaution against Fire

To find out the precautionary measures in place for fire disasters prevention, the researcher explored the presence of fire and smoke detection and suppression systems and inspection of the electrical installations and sockets around the records storage areas. The study found out that majority (19 or 51%) departments were in building with installed smoke detector alarms while 25 (68%) departments were housed in fire detectors installed buildings. To demonstrate the effectiveness of the systems, a test was carried out by one of the respondents through lighting a match stick while the researcher looked on and it proved the system was in good working condition. This was repeated in all buildings with such installations and all systems were found to be in good working conditions. Nonetheless, the study found that electrical installations and sockets around the records storage areas were inspected albeit annually in 13(35%) departments as part of the wider routine maintenance programs involving the whole building. Over 24(65%) departments had never witnessed such checks and shockingly it was in these departments where cookers, cutlery and utensils were found inside the records storage areas contrary the Records Management Procedures Manual for the Public Service (2010) that requires authorized officers and chief executive officers to ensure regular evaluation of the procedures for prompt detection of fire and its suppression as well as regular evaluation of the location and conditions of the electrical systems

Outside Kenya, in the United States, fire extinguishers are required to be maintained annually and inspected monthly (the United States National Fire Protection Association and State Fire Code, 2020). This meant that all government departments and agencies in

Mombasa Count did not meet the basic minimum threshold for fire prevention and control thereby making records vulnerable to fire outbreaks.

In 35 (95%) departments, 'THIS IS A NO SMOKING ZONE' or 'NO SMOKING' signage were clearly displayed at the entrance of the compound or buildings. Fire exits were also clearly marked out for visitors to see in 23 (62%) departments. Such 'NO SMOKING' signage was non- existent in two (5%) departments located in a private rental building along Moi Avenue. Despite the 'NO SMOKING' signage, tea was prepared using gas cooker and consumed in the records storage areas in three (8%) departments. This was in total disregard to danger posed to the records and the whole building. When the researcher enquired about the meaning of the "NO SMOKING" yet tea preparation and consumption continued in the registry, the respondent replied: "I was directed by the Boss to place the signage after he caught two staff members smoking inside the registry in total disregard to the health of other staff members. I personally mounted this board because most of the staff members complained bitterly as they were infuriated by the suffocating smoke". Smoking in the registry cease after the placing of the signage although the smoking went on immediately outside the registry door. Tea preparation using gas cookers in the records storage areas not only exposed records to fire but also to insects and rodents.

4.2.2.2 Precaution against Storm and Flood Water

The study investigated existence of water-related disaster prevention and control strategies in place. The researcher through observation, investigated the presence of water pipes in and around records storage area and found nominal measures in majority of

departments except for departments located above the ground floor of the host buildings. In one building hosting some 12(32%) departments, water pipes and drainage systems were checked annually while in other 25(68%) departments the systems were never checked.

In five (13%) departments records were exposed to water damage from leaking roofs and pipes that ran along the records storage areas. In one department, very vital records (admission and other registers) were obliterated by water from a leaking roof. They were rotting and smelly occasioned by molds attack. In two (5%) departments, records encountered rain water passing through broken window panes while in another department records were damaged by rain water passing through an open side of a temporary structure where they were stored.

The researcher investigated how often the water pipes, drainage systems and guttering around records storage areas were inspected for faults and clogging. The researcher noted that 12(32%) departments checked their water pipes and drainage systems on annual basis while in other 25(68%) departments the systems were never checked. Similar results were obtained where guttering systems were checked annually in 10(27%) departments while the same were never checked in 24(65%) departments. Some four (11%) departments exhibited signs of clogged guttering as they had overgrown vegetation. This was contrary to the State Archives and Records Standard on the Physical Storage of North South wales Government records (2017) that require buildings chosen as records storage facilities to be weatherproof and have good guttering, drainage and water run-off. Repair of leaking roofs is considered as a component of water related

disasters preventive strategies (Lyall (1993). With no effort to repair leaking roofs then records in government departments and agencies within Mombasa County remained prone to water incursions.

4.2.2.3 Protection against Unfavorable Temperature and Relative Humidity

To establish the existence of precautionary measures against extreme temperature and relative humidity, the researcher investigated the equipment that were used to regulate temperature and relative humidity in the records storage areas. The researcher also wanted to establish if departments monitored daily temperature and relative humidity around the records storage areas. The study found out that only one (3%) department recorded daily temperatures twice a day and got a mean temperature of 27.9^0C with a minimum of 22.7^0C and a maximum of 33.1^0C. the average humidity at noon was about 65 % while in the other 36 (95%) departments, temperature and relative humidity monitoring was nonexistence. The study found out that about 16(43%) departments used air conditioner and 31(86%) fans. The fans and air conditioners were in good working conditions however they were not effective without the companionship of wall thermometers. However, relative humidity regulation was dome by only one (3%) departments using a dehumidifier. The researcher also observed that departments located above second floors of the Betting licensing and Control building; southern wings of the Uhuru Na Kazi building (former Provincial Commissioner building); Social Security (NSSF) Building and eastern side of Bima Tower, temperatures were naturally regulated by a sea breeze direct from the Indian Ocean in addition to fans and air conditioners. However, records were exposed to high levels of relative humidity as none of these departments had dehumidifier in the records storage rooms. This meant

that records were exposed to degradation processes such as feathering and embrittlement due to high values of temperatures and relative humidity. Paper records with long-term value (over 30 years) should be stored in a clean environment with round-the-clock control of temperature between 16-25^{o}c or at specific temperature of 20°C +/- 2°C and relative humidity of 30 – 60% or RH 50% +/- 5% to ensure their preservation over time (National Archives of Australia, 2002, Government of Hong Kong 2011).

4.2.2.4 Precaution against Biological Agents, Dust and Uncontrolled (Excessive) Light

The researcher investigated the strategies employed by different departments to prevent and control environmental hazards such as rodents and insects, dust and uncontrolled light. The study established that records were stored under varied and mixed conditions where 32(86%) departments kept records in metallic cabinets, 12(59%) departments kept records in wooden cupboards, 16 (43%) departments used open wall shelves and two (5%) departments stored records in closed wooden wall shelves/racks. The researcher observed that a number of departments (24%) stored closed files on top of cabinets, on the floor of offices, registries and in neglected stores. In one department, un-appraised closed records dumped naked on the floor of a storage room had been destroyed by birds where the aves perched and passed out droppings on the records. In another one (3%) department, closed records were stored in a broken wooden cabinet and open wooden shelf together with unserviceable office machines such as telephone heads, fax machines, broken furniture, old tyres and water pipes in an abandoned open walled structure with rusty leaking iron sheet roof. Staff members also took tea within

the records storage areas. Except for the departments using lockable metallic cabinets to store records, all other types of storage facilities exposed records to environmental agents of deterioration. Tea preparation and consumption in the records storage room posed a risk to records, even those in metallic cabinets, due to the risk of fire as well as insects and rodents that are attracted to the sugar and other food substances sneaked into the records storage areas. Records should be stored in a media that will guarantee their authenticity, reliability and usability for as long as required (1SO 15489-1 (2018). They should not be exposed to any environmental hazard like light, dust, insects and rodents. Records and other informational materials should not be left exposed on tables or counters particularly near windows or areas of strong light and should be returned to filing cabinets, shelves or boxes when not in use. Acid-free folder, boxes or containers, powder coated or baked enamel metal cabinets or shelves should be used for their storage. Filing cabinets, shelves or boxes should be fumigated regularly to ward off insects and rodents (the National Archives of Australia, Standard for the Physical Storage of Commonwealth Records, 2002).

4.2.2.5 Precaution against Theft and Vandalism

To establish whether records were in danger of theft or vandalism, the researcher investigated the precautionary measures in place to keep potential thieves or vandals away from records. The study found out that varied departments used varied measures to control unauthorized access to records. While some departments 15 (40%) used officer's and visitor's identity tag, others 28 (75%) departments used entrance counter; always locking the storage rooms (25, 68%); always locking the storage facility (30, 82%); use of burglar-proof doors and secured windows (26, 70%); use of burglar alarms

(4, 11%) and use of closed circuit television, CCTV (8, 22%) as illustrated in Figure 4.3.

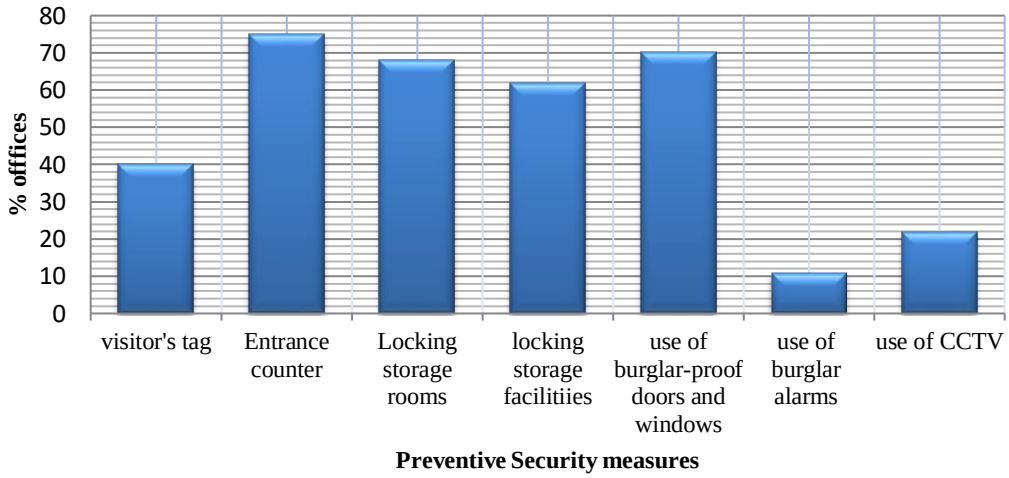

Figure 4.1: Security Measures against Theft and Vandalism

This was in conformity to Kemoni (2007) who stipulates that the facility used for storage of records should keep records safe from unauthorized access while at the same time allow maximum accessibility of information to the authorized users and that is commensurate with its frequency of use. It can therefore be deduced that majority of the departments had secured their records against theft and vandalism. It can also be affirmed that records in Mombasa County are not at the risk of theft or vandalism.

4.2.2.6 Precaution against Terrorism

On whether departments had mechanisms to prevent terrorism, the researcher investigated the measures in place to control movement of people in and outside the building. The researcher found out that 20 (54%) departments were located in buildings guarded by private security firms while 15((41%) departments were in buildings

guarded by either Administration Police or County Askaris (security enforcers). In two (5%) departments, there were no security personnel to control movement of people in and out of the building.

The researcher observed that hired private guards and county askaris did thorough physical searches with the help of metal detectors to thwart any attempt to sneak in treacherous materials into the buildings. The researcher noted that in three buildings hosting 12 (32%) departments, entrances were guarded by Administration Police and used walk-through metal detectors managed by departmental staff. In six (16%) departments housed under one building, visitors passing through the walk-through metal detectors underwent further security checks by registering their names, national identity card or passport numbers, the office and the officer they intended to visit, nature of visit, time checked in and out. They were then provided with visitor's tag while they left their national identity cards or passports with the security personnel.

In two other buildings housing 25 (67%) departments, there were two separate entrances for pedestrian visitors and motorists accessing basement parking where pedestrians and motorists were inspected at the entrance. In three buildings housing 12 (32%) departments, parking was outside the buildings although too near to the building that terrorists could easily carry their mission undeterred. In four (11%) departments, vehicles were inspected at the entrance to the compound and parking was at a distance from the main building. In one building housing eight (22%) departments, the parking space had three abandoned containers and a building that posed a security threat since vehicles were not inspected at the gate and terrorists could hide behind them and launch

attacks. Security was most tight at the entrance into the premises of four departments:- the Kenya Ports Authority, the Kenya Ferry Services, Kenya Marine and Fisheries Research Institute and Shimo la Tewa Prison as entry into the compound was a huge challenge and not until after clearing with security followed by a thorough physical vetting. These departments were conscious of the danger posed by terrorism and invested much resources into safeguarding their people as well as property including records.

The study also established that 29 (78%) departments were too close to adjacent roads or neighbourhoods making them vulnerable to terrorism as explosives could be hurled from the roads or neighbouring buildings. These were departments located in buildings such as Bima Towers (devolved units), National Social Security Fund (NSSF) building, the Betting Licensing and Control Board building, the Island Assistant County Commissioner (ACC) and Sub-County Agriculture office in Majengo area, the Government Clearing Agency in Ganjoni area, Huduma Centre at General Post Office along Digo road, the County Commissioner, Deputy County Commissioner's office and the National Sub-County Treasury at the Treasury Square and the Coast General Hospital. The study therefore construed that majority of records and people working in government departments within Mombasa County were vulnerable to terrorism. This meant that although some departments had instituted commendable measures to prevent terrorism majority departments remained exposed to the terrorist threat due to their proximity to unsafe neighbourhoods and roads as well as unattended building and containers in the compounds contrary to international best practice for protection of

records, people and other valuable assets against terrorist outlined by the Security Service, MI5 (2015) that include:

(i) Keeping public areas in and around the building tidy and well-lit as well as removing unnecessary furniture and keep garden areas clear.

(ii) Keeping access points to a minimum and issue staff and visitors with passes while at the same time not allowing unauthorized vehicles close to your building.

(iii) Installation of appropriate physical measures such as locks, alarms, CCTV surveillance and lighting.

4.2.3 Challenges Experienced in the Implementation of Effective Records Disaster Preparedness Programs

The third objective of the study was to identify factors that hindered the implementation of effective records disaster preparedness programs by government departments within Mombasa County. The respondents were requested to highlight some of the challenges they encountered daily in their efforts to preserve recorded information and ensuring it was available when and where required. The researcher interviewed respondents and using observation to corroborate their responses discovered that a host of factors contributed to the failure by government departments to put in place strategies that were effective enough to safeguard records against any form of disaster.

Certain factors were brought out as major hindrances among them were: lack of funding for records management activities, lack of training in disaster management, nonexistence and lack of awareness of records management Policies. After deeper

interrogation of all these factors individually, the researcher discovered that they were all pegged on lack of funding for records management activities.

4.2.3.1 Lack of Funding for Records Management Activities

The researcher investigated whether funds allocated to records management activities were adequate compared to other activities carried out by government departments within Mombasa County. The respondents were asked if funds allocated for records management activities were adequate in terms of meeting the records management requirements and none (0%) indicated that funds were adequate. Respondents in 16 (43%) departments admitted they received funds specifically meant for records management units even though the funds were less than a quarter of the total departmental budget. In 21 (57%) departments respondents affirmed the funds received in records management unit was part of the department's stationery and other office supplies budgetary allocation. Respondents in ten (27%) departments said they had never attended departmental budget preparation meeting or consulted during procurement of stationery and other records management supplies. The researcher established that the funds allocated to records management activities were barely adequate compared to needs of the records management units.

Funding being a driving force that ensures the success of any program, records management funds are needed for various activities including capacity building, procurement of quality stationery, equipment, filing cabinets, electronic backups, files, pens as well as acquisition of space. Adequate funds for registries are crucial in realization of records management goal such as enacting records management policies,

development and implementation of disaster management program, environmental control and monitoring, appraisal and disposition programs, and preparing manuals, training registry personnel. However, many government departments and agencies within Mombasa County and Kenya in general as well as in countries in the ESARBICA region faced challenges in capturing and preserving paper and electronic records due to absence of dedicated budgets for records management as pointed out by Mnjama and Wamukoya (2004)

4.2.3.2 Skills and Experience in Handling Records

The researcher sought to establish the nexus between the failed implementation of records disaster management program and the training and experiences of those charged with management of departmental records. The results were as shown in Figure 4.4.

Figure 4. 2: Skills in Records Management

Figure 4.8 indicate that out of the 37 respondents interviewed, a significant number of officers 15 (42%) assigned records management duties had no formal training in records management despite working in the civil service over five years while 22 (58%) respondents had some formal records management qualifications. Records handling officers with formal training in records management were distributed as follows: three with masters, seven had undergraduate, one with higher national diploma, eight had

diploma and three had certificate level of training. Table 4.4 shows the qualifications of records management personnel and the number of staff at each level.

Table 4.4: Qualifications of Records Management Personnel

Qualifications	No. of officers
Masters	3
Undergraduate	7
Higher National Diploma (HND)	1
Diploma	8
Certificate	3
Others: Government Training Institute (GTI), Seminars etc.	6
No training	9

Records management professionals in some departments were lowly placed compared to their qualifications while others mainly those with diplomas were deployed to perform non-records management duties such as accounting and procurement duties. The three officers with masters degree were distributed in different departments as one was a deputy director records management and two were assistant director records management while the highest placed undergraduate was at the senior records management officer level. All operated under supervision of their respective directors of human resource. These contributed to the problem of lack of professionalism and low morale in records management activities which impacted negatively on the management of records in the county.

The researcher also investigated whether the officers assigned records management duties had ever attended records disaster management workshops. The study found out

that the last disaster management training workshop was held five years before the study and only two (5%) of the 37 respondents interviewed attended. A significant number of officers (95%) assigned records management duties had no idea what training in records disaster management encompassed. Even the most basic training such as firefighting and evacuation procedures for records staff had never been conducted.

The study thus revealed that capacity building for records management particularly in records disaster management was a neglected area. This was confirmed by having only two respondents who had attended a records disaster management workshop over five years to the study.

The general negligence in capacity building records management personnel could be due to either low regard accorded to the profession or insensitivity for records as vital resources in organizations denoted by the levels at which the officers were placed within their departments. Records management professional in some departments were assigned non-records duties such as accounting and procurement. It was observed that while a handful of them celebrated performing these none-record duties (due to selfish economic gains), records management units in their departments performed decimally and records disaster management was just but unviable.

Top management insensitivity to records as critical managerial component was also largely to blame for inadequacy in trained personnel and failed capacity building for the trained personnel. Lack of capacity building was a major setback to records management professionalism and an impediment to effective implementation of records

management policies particularly in records disaster management programs in many departmental registries within Mombasa County and Kenya at large.

Insensitivity to records by top management was evident by the level at which records management units were placed in the departmental set up. In almost all departments (97%), records management units were relegated to operate under the human resource sections implying that records management units had no budget to control thereby surviving on handouts from human resource section. Education, knowledge and skills have great impact on the development of a sound records management practices (Yusof & Chell, 1998) while training adds knowledge and skills necessary for employees to gain confidence in what they do (Wamukoya, 2000). The public sector has not transformed much since 2007 when Kemoni observed that most of the records management personnel were under trained (Kemoni, 2007). It is therefore justified to draw a connecting line between failure to implement records disaster management programs and lack of training in the area as the quality of a records management program is directly connected to the amount of training received by the personnel that operates it (Chatarera, 2013). It remains hard to imagine the how the scenario would be in the event of a disaster if the registry personnel were persistently remained undertrained in records disaster preparedness, prevention and control.

4.2.3.3 Existence and Awareness of Records Management Policies

The researcher investigated if there were records management policies in government departments and the extent to which they were practiced. The respondents were asked to identify legal frameworks that governed records management in their departments

whether departmental or national policies. They were guided by the interviewer to identify and establish whether these frameworks (especially departmental) existed and if they had clauses on records disasters management. The study found out that many respondents were not aware of the frameworks even though some departments unwittingly applied them albeit in parts. The Public Archives and Documentation Services Act, Cap. 19 was majorly the most popular policy with 89% respondents being aware of its existence despite subdued implementation. The OOP Circular on disposal of personnel records of 2008 was known by 46% and the Records Management Procedures Manual for the Public Service (2010) at 43%. Few departments (11%) had their own departmental RM policies and manuals. Only 5% departments had developed RM standards and retention schedules while only 3% departments had a records disaster preparedness, response and recovery plan. Table 4.5 shows respondents and their awareness of the existence of legal frameworks governing records management in Kenya.

Table 4.4: Records Management Policies

LEGAL FRAMEWORKS	**NO.OF RESPONDENTS**	
	yes	**no**
DEPARTMENTAL LEVEL		
Records Management Policy	4	33
Retention Schedules	2	35
Records Management manual	4	33
Records Management Standards	2	35
Records Disaster preparedness, response and recovery plan	1	36
NATIONAL LEVEL		
Public Archives and Documentation Service Act Cap.19	33	4
National Policy 2009	6	31
Records Management manual 2010	16	21
OOP Circular on Disposal of Personnel records 2008	17	20
OOP Circular for devolved system 2013	4	33

The results indicate that majority of the departments lacked the necessary records management policies and majority of the respondents were not aware of these policies. In Kenya, records management policies include the Public Archives and Documentation Service Act. Cap. 19 (the Principal Legislation on records management in Kenya), Laws of Kenya; the Records Disposal (Court Records) Act, Cap.14; the National Records Management policy (Draft); the National Records Management Procedures Manual (2010); the Office Of the President Circular on Disposal of Personnel records (2008); the Office of the President Circular on Management of Records in Devolved System (2013), institutional/departmental records management policies and retention schedules, departmental records management standards and manuals. The study established that in departments where the legal frameworks existed, they suffered persistent trifling application. The records disaster preparedness, response and recovery plan found in one department also received the same fate in addition to being outdated.

The researcher investigated how often records were transferred to the archives. The study revealed that 29 (78 %) departments made efforts to transfer archival records to either departmental archives or the Kenya National Archives and Documentation Service regularly after every five years, lack of records retention schedules notwithstanding while eight (22 %) departments no longer transferred records to the archives. About four (11%) departments had departmental archives and therefore did not find the need to transfer records to the Kenya National Archives and Documentation Service.

Lack of a policy signifies lack of awareness of the records management standards (Mampe and Kalusopa, 2012). This meant that the staff was not aware of their responsibilities towards the management of their organization's records which was likely to be the cause of failure in identifying vital and archival records by most departments.

4.2.3.4 Use of Poor Quality Paper

The researcher investigated the types of paper used to create records by most departments. The researcher through observation established that 35 (95%) departments used acidic paper to create records. The paper was procured through competitive bidding from local suppliers or the Government Supplies Department without regard to the quality of paper and the implications on long term preservation of the records. Of particular interest was the low quality paper procured from the Government Supplies Department.

It was clear that the paper used for the creation of records had no indications of PH values (the degree of acidity or alkalinity of the paper). This indiscriminate use of paper for records had very negative implications on the long–term preservation of records as browning of folios including current files was evident in 24 (65%) departments. There were no PH standards for document creation, care and handling in all government departments within Mombasa County and Kenya as a country.

4.2.3.5 Choice of Folders and Fasteners

The researcher investigated the type of folders and fasteners used to hold documents together as a file. The researcher established that 17 (46 %) offices used plastic fasteners

and another 20 (54%) used metal fasteners. In many departments, the folders were either torn or totally absent. The respondents indicated that there were no defined criteria for choosing the type of folders and fasteners. The purchases for folders and fasteners were done by officers who were unaware of the impact those folders and fasteners meted out on the long–term preservation of records. Many departments depended on the Government Supplies Department for stationery where folders were of very low quality occasioning many files to losing cover while still in active use. Figure 4.6 shows the types of fasteners used by government departments in Mombasa County.

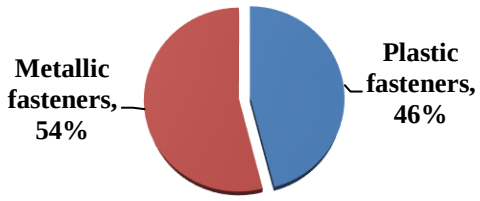

Figure 4.6: Types of fasteners in Use

Observation by the researcher of the documents held by metal fasteners exhibited corrosion from rust and stains. This was caused by the saline humid environment that characterizes Mombasa County. Most of these were not removed even when records were transferred to the departmental archives or Kenya National Archives and Documentation Service. In 12 (32%) departments, staff used adhesive tapes to repair permanent records which deteriorated over time where in some cases the adhesive became loose, brown or torn down the paper to which it was meant to restrain. This pointed out towards lack of policy guidelines and standards in records creation, storage, use and maintenance by government departments within Mombasa County.

Akussah (2000) observe that while it is conventional to use fasteners to hold documents together in folders to facilitate their use and storage, files meant for 'permanent' retention need to be held together with fasteners to reduce the rate of deterioration of the file and fasteners are selected depending on the climatic environment and the retention period of the file.

4.2.3.6 The Disposal of Records

The researcher investigated how departments disposed of their records. The study revealed that the disposal of records in Mombasa County was particularly a problematic area. In 30 (81%) departments, there were no procedures in place to assist in the disposal of records. Officers removed records from their offices only when there was no space available to store them. The store rooms functioned more of a dumping ground for records and other unserviceable stores. There were no control procedures such as closed records registers used when records were relegated to the storerooms. It was observed that in the storerooms, records were competing for space with other materials such as old computers, typewriters, broken furniture, motor cycles, used tyres, broken fans and heaters. Files in these storerooms were neither properly arranged nor documented, exposing them to dust, uncontrolled light, water (from leaking roofs and broken windows), biological agents such as birds, rodents and insect as well as theft and vandalism or information leakage as there was no control in accessing most of these storerooms . Most of the time, records in the storerooms were forgotten and remembered only when there was a urgent need to extract information from them.

When records are not systematically disposed of, offices and records storage areas get congested and retrieval of information is often very poor. Records are likely to get misplaced or lost and in case of a disaster, information recovery will be difficult. Ndenje-Sichalwe (2010) advise government departments' records management units to develop and implement decisions on the retention and disposal of records so as to secure records that risk precocious un-procedural disposition more so in the event of a disaster.

4.2.3.7 Use of Records Movement Procedures and Control Tools

The researcher investigated whether government departments in Mombasa County were using filing indexes/records classification schemes and other records movement procedures and control tools for ease of access. The survey revealed that only 18 (47%) were using filing index/records classification scheme. In some cases, departments not using the classification scheme kept their records in the head of department cabinets for ease of access. Some of the respondents said they were never trained on how to use a classification scheme.

Some 16 (43%) departments did not register incoming and outgoing mails making it difficult to know the type of information received or dispatched from the department or trace correspondences when information is urgently required especially during emergency. It would also be impossible to tell what information is lost if a disaster strikes as information that was known to exist becomes irretrievable.

The study also established that other mail management procedures and file/records movement control were not practiced in some departments. Departments that

established and maintained these tools were: file movement registers (16%); file transit/movement slip (5%); file census and file census forms (3%); folio numbering (68%); closed files register (57%) mail circulation folder (80%); mail circulation register (8%)and file movement cards (8%) as shown in Figure 4.7.

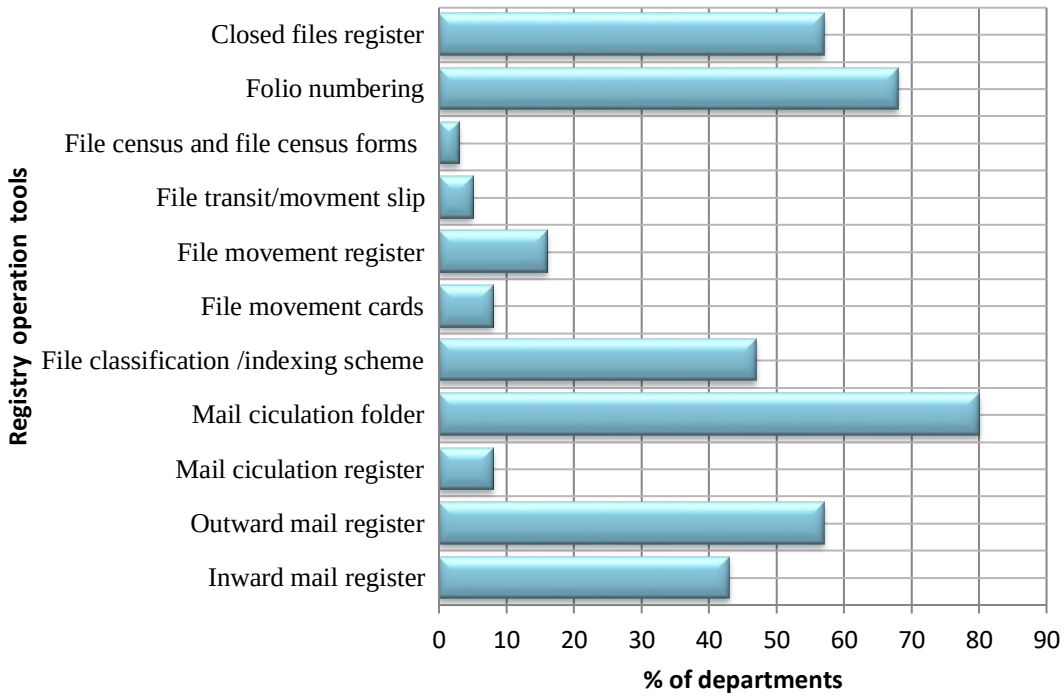

Figure 4.7: Records Movement Procedures and Control Tools

The researcher also established if there were incidences where records were lost or damaged. Respondents in 29 (78%) departments confirmed that they had experienced a case or cases of lost records. This occurred where mails were opened by the head of department, mails were not registered, file index was lacking, misfiling made by registry staff, wrong reference numbers, and the sending of mail directly to action officers and officers do not sign for records they took out, officers do not return files to the registry or the officers do not send to the registry for filing correspondences they

received directly from senders or couriers or keeping a copy of what they sent out. In one of the registries, the researcher was informed that the registry held only copies of the correspondences while original documents were kept and managed by the secretary to the Head of Department.

A records classification system assists in knowing what records exist and where they are kept in an organization and facilitate easy access to records. When a classification scheme is in use, the location of records is known at any time and its use monitored. It is also possible to maintain an auditable trail of record keeping processes, such as access to records by users (Ngoepe, 2008). Use of records movement procedures and control tools assist records management personnel to easily identify any outstanding action, enable retrieval of records, prevent loss of records, monitor usage for systems maintenance and security and to maintain an auditable trail of records transactions. Thus the movement of records should be documented to ensure that items can always be located when required.

4.2.3.8 Inadequate Storage Facilities

The researcher investigated if records storage facilities and space were adequate and if this contributed to poor records disaster management implementation in Mombasa County. The study established that in nine (24%) departments, storage cabinets were full and congested with current and semi current records forcing closed records to be stored on top of cabinets, on the floor of offices, registries and in neglected stores. In one (3%) department lack of storage facilities led to un-appraised closed records

dumped naked on the floor of a storage room where birds (doves) perched on the records and their droppings had badly destroyed those records.

Inadequate storage led to unconventional ways of storing files such as arranging them on work stations or even putting them on the floor, which led to accelerated deterioration of the records because of the interaction with physical, chemical and biological agents of deterioration contrary to the requirements of ISO 15489-1 (2018) that requires appropriate storage conditions to be afforded to records so as to ensure that they are protected, accessible and managed in a cost effective manner..

4.2.3.9 Management of Electronic Records

The researcher investigated whether departments created, used and maintained electronic records. The respondents were asked whether they received/created electronic records as part of their functions. Respondents in 19 (51%) departments indicated that they generated records in electronic formats. When asked about the existence of a policy governing the storage and retention of e-mails and other electronically generated records, 35(95%) of the respondents indicated that a policy governing e-mail storage and retention did not exist or they were not aware of whether it existed. Only two (5%) of the respondents were aware of the existence of an e-mail policy.

It was observed that all the 19 (51%) departments that created or received email had varied ways of maintaining, retrieving, and storing such records. In departments with official email addresses, the departmental email addresses were not active in 12(32%) departments and heads of departments used personal email addresses to receive official emails. This means no documentation was made for records received or sent

electronically thus making them inaccessible to other officers. Of the remaining seven (19%) departments using official emails, it was established that five (13%) departments did not manage the e-mails properly as in many cases the electronic records received via email lacked the appropriate metadata for authenticity purposes. This was attributed to the lack of departmental policy governing e-mail use, storage and retention. Therefore, only two (5 %) of the departments possibly managed their electronic records according to the departments' policies.

Introduction of Information Communication Technologies (ICT) in government offices made recordkeeping to move from manual to electronic format. Information and Communication Technology Authority (2015) observed that different records were now preserved in a range of technological platforms such as emails, databases and others where they were archived for later access. The Authority further observed that even though technology has significantly increased ease of access to records, it had also led to the authentication and authorization of access to records by unauthorized persons. In order to preserve electronic records effectively, it remained every employee's responsibility to guarantee their physical security and protection.

4.4 Chapter Summary

Chapter four has presented, analyzed and discussed data collected on the strategies employed by government departments in Mombasa County for preparedness, prevention and control of records disasters. The data was presented, analyzed and interpreted using charts, tables and narratives.

The findings revealed that certain challenges impeded sound records management thereby making records vulnerable to both slow on-set and rapid on-set disasters. These included: Records created on acidic paper; use of metallic fasteners that corroded documents, presence of private registries due to lack of confidence by heads of department for those charged with management of records; lack of appropriate storage rooms and facilities and the subsequent refusal by heads of departments to transfer their non-current records to Kenya National Archives, Lack of training and experience in records disaster management, lack of awareness that led to poor implementation of the basic legal frameworks in records management; lack of necessary equipment to monitor and regulate temperature and relative humidity around records storage areas; lack of regular checks on the faults in water pipes, clogged gutters and drainage systems as precautions against storm and flood water, failure to check on faults in electrical installations and sockets to prevent electrical fires and damages to office electronic; lack of expertise in records management that cause failure to implement records disaster preparedness, prevention and control measures. Lack of policy on the management of electronic records especially the emails hindering access to information by other officers thereby jeopardizing operations and long term preservation.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The aim of the study was to evaluate records disaster preparedness strategies put in place by government departments within Mombasa County with a view to formulating appropriate strategies for records disaster management. This chapter gives a summary and conclusion to the findings of the study with respect to the research questions. The chapter ends with recommendations (appropriate strategies) to the findings based on international best practices.

The study sought to address the following issues relating to records disaster preparedness, prevention and control in government departments within Mombasa County.

(i) Whether there are disaster preparedness strategies in place that can be relied upon to prevent or respond to an event of a records disaster.

(ii) Whether the records disaster prevention and control strategies in place are effective enough in pre-emptying the effects of records disasters.

(iii) The challenges experienced in implementing an effective disaster preparedness programs.

(iv) The appropriate strategies for enhancing an effective disaster preparedness program in government departments

5.2 Summary of Findings

This section summarizes the key findings for each section as categorized in the questionnaire and observation checklist used to gather data.

5.2.1 Existence of Records Disaster Planning Strategies

(i) Establishment of disaster management committees

The research investigated whether departments had constituted disaster management committees and found out that 92% of government departments had no emergency management committees to oversee the drafting of a records disaster management plan. About 8% had disaster management committees to manage general disasters with only one department whose disaster management committee had taken the responsibility of managing records disasters.

(ii) Preparation of records disaster management plans

Of the three departments with disaster management committees, only one department whose committee had prepared a Records Disaster Preparedness Plan

Establishment of records disaster response and recovery teams

The same 3% department that had prepared a records disaster preparedness plan had established records disaster response and recovery team while the other 97% departments had not.

(iii) Identification and assessment of potential threats

There were no formal assessment of potential risks to records done in 97% government departments and any precaution in place against potential threats to records was unwittingly done. Measures apparently not meant to counteract threats went a long way

in mitigating or preventing potential threats. Such measures included: keeping part of the records in lockable metallic cabinets (65%) that protected records against water, light, dust, fire, insects, rodents and theft/vandalism. Not all records were secured against these agents of deterioration as some departments kept their records in wooden cupboards (32%), open wall shelves (43%) and closed wooden wall shelves/racks (5%) while in other departments (35%) closed files were stored on top of cabinets, on the floor of offices, registries and in neglected stores.

Firefighting equipment (fire extinguisher and water hose pipes) existed and were functional in 27% departments while in 73% departments they were either non-existent or non-functional. Majority (65%) departments did not regularly inspect the drainage and electrical system. In 8% departments water pipes were located around the records storage areas while 5% departments stored records in basements.

Departments that received or created electronic records had informally identified potential threats in that all the departments using servers to store electronic records had installed antivirus programs and passwords to prevent malicious programs and unauthorized access. Some 16% departments had physically protected their information communication technology (ICT) devices against intruders by reinforcing doors and windows while 8% departments ICT equipment were protected from dust and light by use of velvet carpeted floors and window curtains while temperatures regulation inside the server rooms was done by use of air conditioners.

(iv) Identification of vital and archival records

About 54% departments had not identified vital records while 43% departments had not identified archival records. In many departments, unsorted records (active, semi-active and non-active) were kept in the registries, stores and secretary/reception desk. About 57% departments had transferred part of their archival records to the Kenya National Archives and Documentation Service, Mombasa and 8% departments had set aside rooms that served as the archives for their non-current records.

In 89% departments parts of records were left in the registry and stores. These records risked destruction as they were exposed to various environmental degradation elements such as water, fire, excess light, biological agents, dust and theft/vandalism. Many of noncurrent records transferred to the Kenya National Archives and Documentation Service exhibited features that depicted the poor conditions under which they were maintained while in the custody of the creators. Such features included loose, torn and faded folios and covers. Others were insects or rats infested with parts of the recorded information missing.

(v) Gathering of equipment and materials

Only 3% department had formally assessed the risks to their records and taken a step further to procure most of the emergency/disaster response and recovery resources. The resources gathered were relatively adequate for the response and recovery team to respond to emergencies or disasters affecting records.

5.2.2 Records Disaster Prevention and Control Strategies

(i) Precaution against Fire

Fire as a major risk to records and other assets was identified by more than half of the departments and installed smoke and fire detectors at 51% and 68% respectively. Smoking within the building or compound was prohibited in 97% departments. This was by displaying 'NO SMOKING' signboards on the entrances to the buildings and compounds. However this did not deter 8% departments from using either gas burners or electric kettles to prepare tea in the records storage rooms. Fire exits were clearly marked out for visitors to see in 62% departments. Annual inspection of the electrical installations and sockets around the records storage areas was carried in 35% departments while the rest 65% departments had never conducted such inspections. Where the smoke and fire detection systems were in place, they were in good working conditions and regularly serviced.

(ii) Precaution against storm and flood water

Records in majority of the department were out of danger from storm water even though in 13% departments, records risked flooding from leaking pipes, roofs and broken window panes. In one department very vital records (admission register and other registers) were completely destroyed by water from a leaking roof. Few departments had water pipes, drainage systems and guttering around records storage areas regularly inspected for faults and clogging. This means that majority records in Mombasa County were not at the risk of destruction from storm and flood water.

(iii) Protection against extreme temperature and relative humidity

Only 3% department monitored daily temperatures and recorded a mean of 27.9^0C with a minimum of 22.7^0C and a maximum of 33.1^0C. Average humidity at noon was about 65 % while in the other 97% departments, temperature and relative humidity were not monitored. Temperature regulation was done in almost all departments by use of air conditioner (43%) and fans (86%) and these equipment were all in good working conditions. Departments located on second floor and above of most buildings facing Indian Ocean had their temperatures naturally regulated by sea breeze direct from the Ocean. Records in 97% departments faced the problem of high relative humidity levels as only 3% of the departments used dehumidifier in the whole of the County of Mombasa.

(iv)Precaution against biological agents, dust and uncontrolled (excessive) light

Majority (65%) departments kept records in metallic cabinets thereby securing them against biological agents, dust and uncontrolled (excessive) light. Other departments kept their records in wooden cupboards (32%), open wall shelves (43%) and closed wooden wall shelves/racks (5%). Other departments (35%) closed files stored on top of cabinets, on the floor of offices, registries and in neglected stores thereby exposing them to the agents of deterioration.

(v) Precaution against theft and vandalism

Varied departments used varied measures to control unauthorized access to records. Some 40% departments used officer's and visitor's identity tag, while 75% departments used entrance counter; 68% always locked the storage rooms; 62% always locked the storage facility; 70% had burglar-proof doors and secured windows; 11% used burglar

alarms and 22% used closed circuit television (CCTV) cameras to monitor movement of people in and around the buildings. Therefore majority of the departments had secured their records and were at no risk of theft or vandalism.

(vi)Precaution against terrorism

Movement of people in and outside the buildings hosting government offices was controlled by use of private security firms, Administration Police or County askaris. In over 54% departments within buildings manned by private guards or County askaris, physical searches were done to all visitors using hand-held and walk-through metal detectors to avert entry of dangerous materials into the buildings. In building guarded by the Administration Police, hosting 41% departments, security checks were done using walk-through metal detectors.

In two buildings housing over 67% departments, separate entrances to the buildings were used for pedestrian visitors' and for motorists accessing basement parking and in all cases inspection was done at the entrance. In 16% departments housed under one building, security was enhanced further by requiring visitors passing through the walk-through metal detectors to also register their names, national identity card or passport numbers, the office and the officer they intended to visit, nature of visit and time checked in and out. They were then provided with visitor's tag while they left their national identity cards or passports with the security personnel. Movement of people in and out of the building was not controlled in 5% departments as there were no security personnel at the entrance.

5.2.3 Challenges Experienced in the Implementation of Effective Records Disaster Preparedness Programs

The researcher investigated factors that could be impeding the implementation of effective records disaster management plans in government departments within Mombasa County. The following results were obtained.

(i) Skills and experience in handling records

A significant number of officers assigned records management duties had no formal training in records management. About 59% respondents had formal training in records management against 41% who had absolutely no formal training in records management despite having worked in the civil service for over five years. With regard to training in records disaster management, only 5%had attended at least one workshop over five years before the study. Over 95% respondents had never attended any training in records disaster management. This was a clear demonstration that capacity building in records disaster management was not prioritized and a likely cause of the poor state of records management and lack of establishment and implementation of records disaster management plans which impacted negatively on the management of records in the county.

(ii) Existence, awareness and implementation of records management policies, procedures and processes

Over 43% respondents were aware that legal frameworks governing records management existed at national level while 11% respondents were aware that such frameworks existed in their department/institution. However, only 5%departments applied both national and

departmental frameworks comprehensively as formal procedures while only 3% departments had records disaster preparedness, response and recovery plan in place and comprehensively applied it on day-to- day records management operations.

Over 57% departments had made efforts to transfer part of archival records to either departmental archives or the Kenya National Archives and Documentation Service regularly after every five years while about 8% departments had established departmental archives and therefore did not find the need to transfer records to the Kenya National Archives and Documentation Service.

(iii) Lack of funding for records management

About 43% departments received funds specifically meant for records management units even though were less than 25% of the total departmental budget. In 57% departments, no funds were set aside exclusively for records management activities and instead the funds were part of the department's office supplies budgetary allocation.

(iv) Lack of adequate storage facilities

In 24%departments, records storage cabinets were full and congested with current and semi current records forcing closed records to be stored on top of cabinets, on the floor of offices, registries and in neglected stores wherein some cases records were badly destroyed.

(v) Use of poor quality paper

About 95% departments used acidic paper to create records. The paper used for the creation of records had no indications of PH values where 65% departments, folios were turning brown and the writing fading as early as at the current/active phase.

(vi) Choice of folders and fasteners

There were no defined criteria for choosing the type of folders and fasteners. In many departments, the folders were either worn out or totally absent. Some 46% departments used plastic fasteners while 54% used metal fasteners. In all departments that used metal fasteners, they had rust and stains thereby corroding the paper records. In 32% departments, adhesive tape was used to repair permanent records and in some cases the tape had deteriorated over time, got loose, brown and torn down the paper to which it was apparently meant to restrain.

(vii) The disposal of records

In 95% departments, there were no procedures in place to assist in the disposal of records. Records were removed from their offices only when there was no space available to store them. There were no control procedures and the files were neither documented nor arranged in any order. The storerooms functioned more of a dumping ground for records competing for space with other materials such as old computers, typewriters, broken furniture, unserviceable motor cycles, used tyres, broken fans and heaters thereby exposing them to dust, uncontrolled light, water, theft and vandalism and biological agents such as birds, rodents and insects. Lack of use of classification schemes, retention schedules and systematic disposal of records led to congestion of records in offices and poor retrieval of information

(viii) Use of records movement procedures and control tools

Some 47% departments were using filing index/records classification scheme while 43% did not register incoming and outgoing mails making it difficult to know the type of information received or dispatched from the department or trace correspondences

when information is urgently required during emergency. It would also be impossible to tell what information is lost when a disaster strikes as information that was known to exist becomes irretrievable. Many other mail management procedures and file/records control tools were not followed in many departments and respondents in 78% of the departments confirmed that they had experienced a case or cases of lost records.

(ix) Management of electronic records

Respondents in 51% departments indicated that they received or created electronic records. These records were stored in servers (41%), CPU (51%), memory sticks (27%) and DVDs (8%) departments. Majority (95%) respondents indicated lack of a policy governing e-mail storage and retention or they were not aware of whether it existed. Only 5% of the respondents were aware of the existence of an e-mail policy. Departmental email addresses were not active in 32% departments and heads of departments used personal email addresses to receive official emails. In these cases there was no official documentation of records received or sent in electronic format thereby making them inaccessible to other officers. In 19% departments, electronic records were received or sent through official email addresses. However the electronic records lacked the appropriate metadata for authenticity purposes. Only 5% departments possibly managed their e-mails according to the departments' policies

5.3 Conclusion

With only one department found to have undertaken formal records disaster planning and prevention. The department had prepared and implementing a Records Disaster Preparedness Plan, formally identified threats to records, identified vital and archival records, established records disaster response and recovery team and gathered most of

necessary records disaster response and recovery equipment. The other 36 departments had non-formal programs that lacked direction and effect. Many departments faced congestion problems with unsorted records at different stage in the registries, stores and secretary/reception desk exposing them to environmental degradation elements.

While some departments kept records in lockable metallic cabinets thereby safe guarding them against water, light, dust, fire, insects, rodents and theft/vandalism, others kept records in wooden cupboards, open wall shelves, closed wooden wall shelves/racks, on top of cabinets and on the floor of offices, registries and in neglected stores thereby exposing records to the agents of deterioration. Lack of service maintenance to fire suppression equipment in majority (73%) departments rendered them non-functional while many departments did not inspect the electrical system and sockets around the records storage areas on regular.

Tea preparation using electric coils and gas cookers in records storage areas despite banning smoking within the building or compound exposed records to threats of fire and insect infestation.

Broken window panes, records storage in basements and water pipes running inside the records storage made records venerable to water leakage. While temperature regulation was done in all departments by use of either air conditioners, fans or naturally by sea breeze, temperature and relative humidity levels were not monitored in 97% departments thereby exposing records to high relative humidity levels. Records remained vulnerable to terrorism due to the proximity of the most buildings to the nearby roads and neighborhoods.

In many building, theft and vandalism to records was controlled by use of private security firms, administration police or county askaris, use of officer's and visitor's identity tag, always locking records storage rooms and facilities; use of burglar-proof doors and secured windows; burglar alarms, use of closed circuit television (CCTV) cameras. Use of servers installed with antivirus programs and passwords.

Poor records disaster preparedness programs establishment and implementation in government departments in Mombasa County was occasioned by certain inherent challenges. These included lack of adequate capacity building in records disaster management, lack of awareness and poor implementation of legal frameworks governing records management at national and department/institutional level, lack of policy on management of electronic records, lack of funds exclusively dedicated for records management activities, lack of policy in records management to guide on the quality of paper, fasteners, use of records movement and control procedures. Government departments within Mombasa County scored poorly in records disaster preparedness thereby exposing records to myriad of deterioration agents including fire, dust, uncontrolled light, water, biological agents, theft and vandalism.

5.4 Recommendations

Based on the findings of the study, government departments within Mombasa County need to improve records management systems so that recorded information is available for use in authentic and reliable form for as long as required. Effective records management systems need to be implemented to ensure records are safe-guarded against agents of deterioration. In the event of emergencies or disasters, their effects are

effectively and efficiently neutralized before they render records worthless. The study therefore makes the following recommendations:

5.4.1 Recommendations for Immediate Implementation

(i) Provision of adequate funding

Adequate funding is the foundation upon which effective records management programs are anchored and sustained. Adequate funding is critical for adequate staffing and capacity building, procurement of quality stationery, equipment, filing cabinets, electronic backups, files, pens as well as acquisition of space. All departments should set aside budgets exclusively dedicated to records management every financial year as a gesture of commitment to the records management programs.

(ii) Staff training

All departments should train their records staff in records disaster management. Regular workshops in records disaster management records for records staff and all other employees will be advantageous as all employees are sensitized on what to do in the event of an emergency or disaster. Government departments should recruit qualified and experienced professionals coupled with capacity building of the existing staff in records management and records disaster management.

(iii)Establishment or use of the existing records management policies, procedures and processes to guide records management and records disaster management.

Departments with backlogs of unappraised records should systematically dispose them to minimize cases of unauthorized destruction of valuable records through deliberate exposure to agents of deterioration such as water, fire, light, dust, water and biological

agents such as rodents and insects. Departments without records retention and disposal schedule should prepare and tie them to the filing classification system to ensure that records are kept for the length of time that they should and eventually get disposed of appropriately.

(iv) Identification and assessment of potential threats

The 36 departments without records disaster preparedness plan should endeavor to constitute records disaster management committees to identify, assess and analyse potential threats to records. After the analyses, staff should be made aware of potential risks and their impact on public records and systems.

(v) Identification of vital and archival records

Each department should identify national records management policies or establish institution-based policies that safe-guard both vital and archival records against environmental degradation elements such as water, fire, excess light, biological agents, dust and theft/vandalism early enough (immediately after creation or receipt) to ensure that departments operations are not disrupted in the event of an emergency or disaster.

(vi) Precaution against storm and flood water

Departments storing records in the basement or rooms with water pipes should:

a) Avoid storing records directly next to or under water pipes. Do inspection and repair to the water pipes, guttering and drainage systems on routine bases to minimize damages due to water leakage.

b) As much as resources would allow avoid storing records in rooms containing water pipes such as basements, attics or rooms near washrooms. These areas are often poorly insulated and very susceptible to water and weather-related damage.

c) Ensure water control systems are easily accessible to all staff so that water can be turned off quickly and easily in the event of a leak or flood.

d) Keep all records materials off the floor, on pallets or on shelves to ensure that they are at a level higher than water could reach in the event of a flood. Records should not be stored directly on the storage room floor to prevent damage by any water that pools or floods

(vii) Precaution against fire

a) Departments located in building lacking smoke and fire detectors should enforce a 'No Smoking' policy in all areas where records or archives are stored or handled and restrict smoking only in designated areas.

b) Avoid storing unstable or dangerous materials such as cleaning solutions, chemicals and easily ignitable items near records.

(viii) Precaution against biological agents, dust and uncontrolled (excessive) light

a) The departments whose storage cabinets were full and congested with current and semi current records stored on top of cabinets, on the floor of offices, registries and in neglected stores to remove them from cabinet tops, on the floor of offices, registries and in neglected stores to minimize exposure of records to light, dust, water and biological agents such as rodents and insects. The records should be appraised and either transferred to KNADS or get destroyed.

b) Departments storing records near window that receive direct sunlight should place curtains or blinds over windows and install awnings over the outside of windows particularly in areas receiving direct sunlight. Store records areas without windows and lights put off when the area is not in use. Ultra-violet sheaths should be installed on florescent lights. Place filters in the form of plexi glass or plastic screens or blinds over windows.

c) The three departments handling food items such as tea in the records storage areas should prohibit and cease food and drink preparation or use in the records storage area as they attract insects and rodents.

d) Remove any live plants or flowers in the records storage areas as they attract insects. The storage areas should be cleaned on a regular basis particularly behind shelves and in dark areas.

e) The department whose un-appraised closed records were dumped naked on the floor of a storage room where birds (doves) perched on them should engage the department of KNADS to appraise these records

f) The department where closed records were stored in a broken wooden cabinet and open wooden shelf together with unserviceable office machines, broken furniture, old tyres and water pipes in an abandoned open walled structure with rusty leaking iron sheet roof. Should engage KNADS to sort out and appraise records. Records should be separated from non-record items and get disposed off.

(ix) Precaution against theft and vandalism

Departments whose officer's and visitor's are not provided with identification tag/passes or have no entrance counter should ensure that all visitors are supervised all the time they are on the premises by introducing officer's and visitor's identification tag/passes,

(x) Protection for electronic records

Government departments with Information Communication Technology (ICT) devices should protect data loss by use of the following guidelines:

a) Provide uninterrupted power supply (UPS) devices to all internal and web servers. The servers should be enabled with software that allows them to shut down gracefully, saving and/or backing up data as needed before the available power expires. Where possible, replace desktop systems with Laptops with built-in battery backup.
b) Use password controls, firewalls and anti-virus software to protect electronic records against intrusions by external hackers and other unauthorized users as well as damage caused by malicious code or other forms of software designed to infiltrate or attack the computer system.
c) Those departments using servers to store electronic records should install antivirus programs and passwords to prevent malicious programs and unauthorized access.
d) Departments with no physical protection to their Information Communication Technology (ICT) devices against intruders should reinforce doors and windows, Restrict access through use of metal grill in registry counter.

e) ICT equipment should be protected from dust and light by carpeting floors and installing window curtains. Temperature regulation inside the server rooms should be done by use of air conditioners.

5.4.2 Recommendations for Medium-Term Implementation

(i) Precaution against storm and flood water

The government departments located on the uppermost floor and those located on the basements should:

a) Install water alarms in records storage areas to detect the presence of water near records.
b) The roof, guttering, windows, and foundation of the storage building should be properly maintained to ensure a stable storage environment that will minimize the possibility of weather-related damage to the records.

(ii) Precaution against fire

a) All departments should ensure records room have emergency exits clearly marked and kept clear of obstructions so that in the event of fire, there would be no confusion especially if the fire starts at the main entrance.
b) All records staff should undergo regular fire drills that should include fire awareness, sounding fire alarms, evacuation procedures and operation of firefighting equipment. All departments should work with the Fire Brigade to provide training and advice on fire precautionary measures.
c) Check electrical installations and sockets around the records storage areas regularly to ensure there are no damaged wires or poor circuits.

(iii) Protection against extreme temperature and relative humidity

The 36 departments where temperature and relative humidity were not monitored should install wall thermometers and hygrometers to monitor changes in room temperatures and relative humidity. These departments should also install dehumidifiers to control relative humidity.

(i) Precaution against biological agents, dust and uncontrolled (excessive) light

a) Departments storing record in wooden cupboards, open wall shelves, wooden wall shelves/racks whether closed or open should procure lockable steel metal cabinets that guarantee maximum security to records.

b) Those departments with closed non-current records should store them in fumigated boxes and always re-file them after use.

c) All departments should store permanent records in a clean, dark, cool and dry environment away from food areas that will attract rodents and insects. Insects are attracted by the nutrients found in paper-based products, particularly adhesives and starches. Insects are also attracted to damp, dark and dirty locations.

d) Departments with cracks along floors and walls and holes around pipes plugs should seal them to limit the entry of insects from outside.

(iv) Precaution against theft and vandalism

a) All departments should install burglar-proof doors and secured windows, burglar alarms or use closed circuit television, CCTV cameras. Restrict entry into records storage areas to authorized personnel only. Institute a program for issuing and wearing security passes that clearly identify and distinguish different categories of

staff (permanent and temporary) and visitors (contractors' staff, regular users, casual visitors).

b) All department should ensure all access points to buildings or storage areas are fitted with locks, and ensure the doors are locked and keys provided only to authorized personnel whenever possible. Install intruder alarms to warn of unauthorized entry.

c) Hire a twenty-four hour security service.

d) Ensure that all security measures apply not only to visitors but also to staff.

(v) Precaution against terrorism

To protect records, people and other valuable assets against terrorist, all departments should engage caretaker to their host buildings to do the following:

a) Keep public areas in and around the building tidy and well-lit as well as removing unnecessary furniture and keep garden areas clear.

b) Keep access points to a minimum and issue staff and visitors with passes.

c) Install appropriate physical measures such as locks, alarms, CCTV surveillance and lighting.

5.4.3 Recommendations for Long-Term Implementation

(i) Establishment of disaster management committees

The 34 government departments without disaster management committees should establish such committees. These disaster/emergency management committees should oversee the drafting and implementation of a records disaster management plan. The mandate of the committees shall be: to prepare a records disaster management plan; to

establish a records disaster response and recovery team; to identify and assess potential threats; to identify vital and archival records; to gather records disaster response and recovery equipment and materials.

The disaster management committees once established should prepare a records disaster management plan. The plan should address the four stages of disaster preparedness planning. These stages are:

a) Planning

Planning will involve identifying physical and digital records across the organization and identifying potential risks to these records and related recordkeeping.

b) Prevention

Prevention involves examining the likelihood of those risks occurring and reducing the possible impact should those risks occur by undertaking necessary activities to reduce their likelihood and/or impact.

c) Response

Response is the stage where the disaster preparedness and response plans are initiated and resources to protect and secure public records from significant impact are deployed.

d) Recovery

Recovery is the stage where affected records and recordkeeping operations are salvaged and restored to allow business operations to resume as usual.

(ii) Establishment of records disaster response and recovery teams.

Disaster management committees once established in departments should constitute records disaster response and recovery teams. The teams should comprise of small teams consisting of one or two people depending on the size of the department. These teams should comprise of:

a) **Administrative Team** to liaise with an insurance company for damage assessment; procuring supplies; estimating time for repair and/or replace operations; establishing a command post; providing clerical and administrative support.

b) **Support Services Team** to procure housing and office space for personnel; arranging for transportation of supplies, equipment and personnel during recovery time frame.

c) **Backup/Offsite Storage Team** to establish control of offsite records; providing human resources; verifying procedures to be followed at backup site.

d) **Security Team** responsible for establishing and maintaining security at backup or alternative site and enforcing security at damaged site.

e) **Finance Team** responsible for establishing and distributing funds during recovery time frame.

f) **Public Relations Team** to deal with media, staff, customers and public during disruption to normal business operations.

g) **Facilities Restoration Team** to start restoration and preparing new facility (if required).

h) **User Liaison Team** that will be responsible for coordinating restoration efforts with users and identifying what transactions may be lost or temporarily suspended during recovery time frame.

i) **Information Technology Systems Team** that will be responsible for the installation of software, hardware and applications.

j) **Communications Team** that will responsible for the installation of communications systems (telephone lines) at recovery facility; examination and restoration of communication systems at damage facility.

After identifying the teams, training in their respective duties should follow. Team members must understand their roles, functions and procedures to realize an automatic response. All other employees should receive training and updates on a regular basis. It should also be noted that where the number of staff are few, one team that comprise of only one officer may do the work of several teams such as that of administrative team, support services team and finance team.

(iii) Gathering of equipment and materials

Disaster management committees upon preparing a records disaster preparedness plan and assessing potential threats should gather and procure appropriate equipment and materials necessary for efficient response and recovery of records in the event of an emergency or disaster. The department that had procured emergency/disaster response and recovery resources should continue to increase and make the list of items more comprehensive.

(iv)Precaution against fire

All departments should, without exception, do the following

a) Install automatic fire detection systems with smoke and heat detectors, fire prevention/protection equipment such as smoke detectors, fire alarms linked to the local fire station, sprinklers and fire extinguishers. Manual fire alarms should also be installed even if an automatic fire detection system is in place to function as a backup in the event of power breakdowns.
b) Compartmentalize their holdings by installing vaults, fire doors, or fire walls to separate records storage areas from office areas so that records are more secure in the event of a fire.
c) Store records in containers such as boxes whenever possible; if records are in boxes the likelihood that fire will spread from file to file is reduced considerably. Files kept on open shelves will burn much faster because the paper will lift as it burns, exposing the paper underneath and strengthening the flames.
d) Ensure that records are protected from accidental fires caused by flame- or heat-producing equipment especially during construction or repair work,

5.5 Suggestions for Further Research

Further research should be conducted to establish the impact the current state of records disaster preparedness in government departments within Mombasa County will have on the enforcement of Article 35 of the Constitution of Kenya (2010) and the Access to Information Act of 2016 legislatives initiatives by the Kenya Government.

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APPENDIX I: LETTER OF INTRODUCTION

School of Information Science

Moi University

P. O. Box 3900

Eldoret

Dear Respondent,

REF: Request for authority to gather information from your department

I am a postgraduate student undertaking a Master of Science in Records and Archives Management degree at the School of Information Sciences of Moi University. As partial fulfillment of the requirements for the award of the master's degree, I am conducting a study titled "Evaluating Records Disaster Preparedness in Government Departments in Mombasa County, Kenya".

The purpose of the study is to evaluate records disaster preparedness in Mombasa County with a view to suggest ways in which it can be enhanced.

Yours Faithfully

John K. Njenga

Tel. No. 0721 41 2203

APPENDIX II: INTERVIEW SCHEDULE

A. PERSONAL DETAILS

Department ……

Designation of Respondent ……

1. Number of years in the civil service

   Less than 1 1–2 3–5 5–10 Over 10

2. (a) How many of your officers have records management Training? ……..

   (b) At what level? ***(Indicate the number in each category)***

   (i) Certificate……..

   (ii) Diploma ……..

   (iii) High National Diploma ……..

   (iv) Undergraduate (bachelor) Degree …….

   (v) Post Graduate Certificate ……

   (vi) Postgraduate Diploma ……..…..

   (vii) Master's Degree …….

   (viii) Others ……..……..

3 (a) Does your organization have an emergency/disaster management committee?

(Yes) (No)

(b) If yes, does your organization have an emergency/disaster response team?

(Yes) (No)

(c) Do you have any records disaster management training programs in your department? (Yes) (No)

(d) How often are the training programs in records disaster response and recovery held?

Every 6 month Every 12 months After 2 years Never

(e) When was the last records disaster training program held?

……

(c) Does your organization have the necessary records emergency/disaster response and recovery resources readily available?

4(a) Has your organization identified both vital and archival records?

(i) Vital records (Yes) (No)

(ii) Archival records ` (Yes) (No)

(b) If yes, where are they located?

	Vital records	Archival records
Within the office		
Outside the office but within the building		
Outside the office in a neighboring building		
Outside the office in a different city/town		

(c) Are the vital and archival records exposed to the following agents of deterioration?

Water- flood, storm, broken pipes, moulds (Yes) (No)

Fire – Arson, bushfire, electrical, terrorism (Yes) (No)

Excess Light – Natural, Electrical (Yes) (No)

Biological Agents e.g Rats, insects (Yes) (No)

Dust (Yes) (No)

Theft/ vandalism (Yes) (No)

Handling (Yes) (No)

Virus/ Hacking - electronic records such as emails, databases) (Yes) (No)

B. RECORDS STORAGE AREAS

5(a) Where do you keep your administrative records?

	Current	Semi current	Non-current
HOD's Office			
Registry			
Secretary			
Store			
Records center			
Others			

(b) Is the room(s) appropriate for records storage? (Yes) (No)

(c) Do non- records handling staff members gain access to the records storage areas mentioned in (a) above? (Yes) (No)

(d) If No, how do you control non-records staff from gaining access to records storage areas?

Use of entrance counter	(Yes)	(No)
Always locking storage room	(Yes)	(No)
Always locking storage facility	(Yes)	(No)
Burglar- proof doors and windows	(Yes)	(No)
Use of burglar alarm	(Yes)	(No)
Use of CCTV	(Yes)	(No)

6 (a) Does your organization have guidelines for disposal of closed files?

(Yes) (No)

(b) If no, what activities precede their transfer to the records center/archives?

……

(c) How often do you transfer records to the records center/archives?

……..……..

(e) How easy is it to access records that have been sent to the store/ records center/archives? ……..

7 (a) Do you monitor temperature levels in your records office/registry?

(Yes) (No)

(b)If yes, how frequent do you take readings?

Once in a day Twice a day Thrice a day

(c) What are the average temperatures in your registry in ^{0}C?

i. Maximum average (^{0}C) …….

ii. Minimum average (^{0}C) ……..

8 (a) What equipment do you use to regulate relative humidity and temperature in records office/registries/store?

i. Dehumidifier (Yes) (No)

ii. Air conditioners (Yes) (No)

iii. Fans (Yes) (No)

iv. Others? Specify ……

(b) Are they operational? (Yes) (No)

(c) If yes, when were they last serviced?

Less than 6 month ago 6 month–1 year ago More than a year ago

9 (a) Do you have fire or smoke detection and suppression systems in your records office/registry?

(i) Detectors alarms

Smoke (Yes) (No)

Fire (Yes) (No)

(ii) Fire extinguisher

Powder/CO2 (Yes) (No)

Water, hose pipe (Yes) (No)

(b) If yes, when were they last serviced?

Less than 6 month ago 6 month–12 months ago More than a year ago

10. Do you have rules and regulations prohibiting cooking or eating food in the records office/registry? (Yes) (No)

E. RECORDS STORAGE FACILITIES AND RELATED SECURITY

11 (a).What storage facility and respective security do you use for storage of your various formats of records?

	Paper	Electronic	Security: lock/password
Computers			
Officer's desks			
Metal drawer cabinets /cupboard			
Wooden cabinets			
Glass door wooden cabinets/ shelves			
Open Wall shelves			
Closed wall shelves			
Floor			
Table			
Others (specify)			

(b) Are the storage facilities appropriate for records storage? (Yes) (No)

(c) Are the locks/password functional for total security of records? (Yes) (No)

12 How do you monitor and control access of unauthorized materials to office/departmental building?

Security personnel with screening apparatus (Yes) (No)

Security personnel with firearms (Yes) (No)

Registration of visitors and vehicles at the entrance (Yes) (No)

Screening of visitors and vehicles at the entrance (Yes) (No)

Burglar- proof doors and windows (Yes) (No)

Use of burglar alarm (Yes) (No)

Use of CCTV (Yes) (No)

F. POLICY ON RECORDS MANAGEMENT, RECORDS DISASTER PREPAREDNESS AND CONTROL

13 (a) Do you know the existence of any of the following documents for records management in your department?

(i) Records management Policy (Yes) (No)

(ii) Records management Procedures Manual (Yes) (No)

(iii) Records management Standards (Yes) (No)

(b) If yes, are they practiced within your workplace? (Yes) (No)

(c) Do they have a clause on records disasters management? (Yes) (No)

14 (a) Are you aware of the existence of any of the following instruments that guide management of public records in Kenya?

Public Archives and Documentation Service Act, Cap. 19 (Yes) (No)

National Policy on records management of 2008 (Yes) (No)

Records management procedures manual of 2010 (Yes) (No)

OOP circular of March 2008 on the disposal of personnel records in public offices (Yes (No)

OOP circular of March 2013 on management of public records in the devolved system (Yes) (No)

G. OFFICE BUILDING: PHYSICAL PLANNING

15. How often are water pipes/drainage/guttering and electrical sockets running in records office /registry/ records stores checked for faults?

	Every six months	Annually	Never
Water pipes/ drainage			
Gutters			
Electrical installation/sockets			

H. OTHER CHALLENGES

16. (a) In comparison to your total budget allocation, about what percentage is allocated for records management?

0-5% 6-25% 26-50% 51-75% Above 75%

(b) In your own opinion, is the amount allocated enough for the function?

(Yes) (No)

17. (a) Do you have a system in place for sharing electronic records?

(Yes) (No)

(b) How do you store your electronic records for future reference? .....

……

(c) Is there any existing policy in your department/division governing e-mail storage and retention? (Yes) (No)

18. Please answer the following questions relating to the management of electronic mail (E-mail).

	Yes	**No**
Do you receive e-mail?		
Do you send e-mail?		
Do you forward e-mail to colleagues?		
Do you store documents attached in e-mail on a diskette / memory stick?		
Do you use folders to organize your e-mail?		
Do you receive attached documents via e-mail?		
What information do you capture when saving e-mails documents in a folder?		
Do you prune your stored e-mail?		

18(a) Do you record incoming and outgoing mails? (Yes) (No)

(b) Do you have a system for capturing incoming and outgoing mails?

(Yes) (No)

(c) If yes, how do you capture and arrange records in this department?

(e.g. by use of filing index)

(d) Have you ever experienced a case of missing file(s) in this department?

(Yes) (No)

(e) Was the file(s) Traced? (Yes) (No)

(f) What was the cause of missing file(s)?

……..

19 (a) What kind of clips (fasteners) are used to hold together records?

Metallic (Yes) (No)

Plastic (Yes) (No)

(b) What criteria do you use in choosing those fasteners?

……..

20 (a) How do you get stationery for office use in this department?

(i) From government supplies unit ……..

(ii) From prequalified suppliers ……

(b) Are there policy guidelines on paper quality for use in creating official documents For this department? (Yes) (No)

21. What other challenges do you face that impede effective implementation of such strategies?

22. In your own opinion, how best can the challenges be addressed?

APPENDIX III: INFRASTRUCTURE OBSERVATION CHECKLIST

Observer's Records

1. Date of observation ……..
2. Department ……
3. Location of registry from the offices …….
4. Location of the records store/ registry within the building

   (a) Basement (b) Ground floor (c) Other floors
5. Approximate distance in meters of office building from neighboring buildings

   (a) Less than 5 (b) 5-20 (c) 20 – 50 (d) Beyond 50
6. (i) Other activities other than office use carried out in the building or neighboring buildings?

   (a) Business (b) Godown (c) Residential (d) Others

   (ii) Specify for (i) above.

a) Types of records	**YES**	**NO**
Administrative records		
Financial records		
Personnel records		
Manuals/handbooks/ newsletters		
b) Formats of the records created/received		
Paper		
Electronic		
Microfilms		
Photographs		
Maps		
Transparencies		

Audio Visual		
c) Measures for records security		
Registry Entrance Counter		
Unauthorized access sign		
Rules and regulations in the registry		
Food handling in the registry		
Non registry staff access to records/files in the registry		
Doors and windows burglar proof		
Disaster preparedness plan		
Disaster response team members		
Off-site storage for vital records		
Firefighting equipment and training		
Water- fighting equipment and skills		
Theft and vandalism preventive measures – CCTV		
Air conditioning and ceiling fans		
Dehumidifiers		
External security of the building		
Leaking roof		
Clogged guttering		
Water pipes and Drainage in the records storage rooms		
Presence of power backups (UPS) for computers		
Presence of passwords for computers		
d) Records storage facilities		
Closed wall shelves		
Open wall shelves		
Metal cabinets		
Metal cupboards		
Wooden cabinets		
Wooden cupboards		
Glass window wooden cabinets		

Mobile Shelves		
e) Physical conditions of the records		
Torn cover/folios		
Dusty		
Faded /brown		
f) Storage condition of semi current records		
In the records office		
In the registry together with current files		
In the registry but separate storage room		
In a separate storage room outside registry		
In the general store together with other unserviceable items		
g) Conditions of non-current records		
Clean and well organized		
Damaged by water/damp		
Damaged by fire		
Damaged by light		
Infested by insect (termites, silverfish, bookworm, cockroaches)		
Infested by rodents		

APPENDIX IV: LIST OF RESPONSE AND RECOVERY EQUIPMENT

Shutter for Front door

Ladders (large and small)

Radio with batteries

Batteries

Blotting Paper

Surgical, Rubber and Cotton Gloves

Tool Set

Hurricane Tracking Map

Flash Lights

Fire Extinguishers

First Aid Kit

Plastic Trash Bags

Crowbar

Sledge Hammer

Saw/ Hammer and Nails

Duct Tape

Sand Bags

Mops, sponges, buckets, brushes, etc.

Brooms/Paper towels

Wheel bins

Dehumidifiers

Plastic Safety Helmets

Rubber Boots

Plastic Aprons

Face Masks

Water Spray Bottles

Various size Plastic Bags

Scissors

Plastic Crates

Wax Paper

Folding Tables

Heaters

Fans

Plastic trash cans

Formaldehyde solution

Wire line

Fiber glass scr**ee**ning

(Deputy Governor's Office: British Virgin Islands, 2006)

APPENDIX V: SAMPLING FRAME

1. Changamwe Sub-County Agricultural office
2. Changamwe Sub- County Education office
3. Coast Conservancy office
4. Coast Development Agency
5. Coast General Hospital
6. Coast Water Services Board
7. County Betting Licensing and Control Board
8. County Commissioner
9. County Departments of Agriculture, Livestock and Fisheries
10. County Department of Education – ECD and Polytechnics
11. County Department of Labor and Social Services
12. County Department of Public Administration
13. County Department of Trade and Energy
14. County Department of Youth, Gender and Sports.
15. County Director of Adult Education
16. County Director of Agriculture
17. County Director of Children Services
18. County Director of Cooperative
19. County Director of Culture
20. County Director of Education
21. County Director of Fisheries
22. County Director of Public Health and Sanitation
23. County Director of Sports
24. County Government of Mombasa Central Registry
25. County Human Resources
26. County Information office
27. County Labor Office
28. County Employment office
29. County Planning office
30. County Police Commandant
31. County Prisons Commander
32. County Probation Office
33. County Public Service Board
34. County Survey Office
35. County Works Office
36. Department of Civil Registration
37. Department of Immigration
38. Department of Land Adjudication and Settlement
39. Deputy Commissioner - Changamwe Sub- County
40. Deputy Commissioner - Kisauni Sub- County

41. Deputy Commissioner - Likoni Sub- County
42. Deputy Commissioner- Mombasa Sub- County
43. Director of Occupational health and safety
44. Directorate of Public Prosecution
45. District Treasury – Changamwe Sub County
46. District Treasury – Mombasa Sub County
47. Fort Jesus Museum
48. Government Clearing Agency
49. Kenya Bureau of Standards
50. Kenya Ferry Services
51. Kenya Marine and Fisheries Research Institute
52. Kenya Maritime Authority
53. Kenya National Archives- Mombasa
54. Kenya National Bureau of Statistics
55. Kenya National Highway Authority
56. Kenya National Library Services
57. Kenya Ports Authority
58. Kenya Sisal Board
59. Kenya School of Government- Mombasa
60. Kenya Sugar Board
61. Kenya Tourist Board
62. Kenya Wildlife Service
63. Mombasa Land Registry
64. Mombasa Law Court
65. Mombasa Sub- County Agricultural office
66. Mombasa Sub- County water office
67. National Museum of Kenya –Coast Regional Office
68. Office of the Public trustee
69. Portreitz District Hospital
70. Posta Kenya
71. Regional Coordinator
72. Registrar of Marriages
73. Registrar of Persons
74. Shanzu Law Courts,
75. State Law Office
76. Technical University of Mombasa
77. Tononoka Law Courts
78. Tudor District Hospital

APPENDIX VI: PRETEST CHECKLIST

Assessment Item	**Right (Specify No.)**	**Wrong (Specify No.)**	**Suggestion/ Remarks**
Relevance of Questions with regard to objectives			
Flow of Questions			
Length of the questions			
Use of technical Terminologies			
Ability to understand technical terminologies			
Spacing of Questions			
Presence of lead questions			
Average time required for one interview session			
Presence of irritating questions			
Presence of questions that violate rights of privacy and /or confidentiality			

PPENDIX VII: RESEARCH PERMIT

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

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Ref: No. **NACOSTI/P/16/34009/13087**

Date: **12th August, 2016**

John Karanja Njenga
Moi University
P.O. Box 3900-30100
ELDORET.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Evaluating records disaster preparedness in government departments in Mombasa County, Kenya,"*** I am pleased to inform you that you have been authorized to undertake research in **Mombasa County** for the period ending **11th August, 2017.**

You are advised to report to **the County Commissioner and the County Director of Education, Mombasa County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

DR. STEPHEN K. KIBIRU, PhD.
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Mombasa County.

The County Director of Education
Mombasa County.