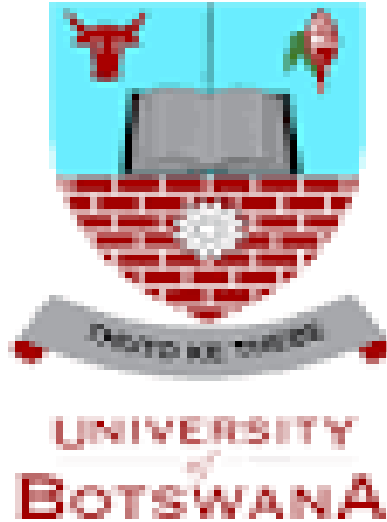# University of Botswana

Faculty of Humanities

Department of Library and Information Studies

DISASTER PREPAREDNESS, MANAGEMENT AND RECOVERY FOR RECORDS AT THE
MINISTRY OF YOUTH, SPORTS AND CULTURE IN BOTSWANA

BY

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Declaration

I hereby declare that Disaster Preparedness, Management and Recovery for Records at the Ministry of Youth, Sports and Culture in Botswana is my own work and has not previously been submitted at any other University in order to obtain an academic qualification and that all primary and secondary sources have been appropriately acknowledged, by means of a complete reference and acknowledgements.

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Student: Ntlogelang Oketsang

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Supervisor: Prof. Nathan Mnjama

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Supervisor: Ms. Tsholofelo Sethibe

Dedication

To my late mom and uncle if it was not for you I would not be where I am. I am what I am because of the love, care and support you gave me during my childhood. The encouragement and your advice were so useful. May your souls rest in peace.

Acknowledgements

This study would not have been possible without the cooperation of a number of individuals and organisations. My supervisors Professor Nathan Mnjama and Mrs Tsholofelo Sethibe provided constant inspiration, constructive criticism and guidance at all the stages of this research.

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My special thanks also go to the respondents from MYSC-DCS and BNARS who took part in the study by completing the questionnaires and agreeing to be interviewed.

Abstract

Disasters cause huge damage to property and peoples' livelihood. Botswana is prone to both natural and man-made disasters. In the past, the country has experienced various disasters. In 2001, Gaborone experienced floods in which private and public properties worth P5 million were damaged (NDMO, 2013:p.8). These disasters in some instances destroy peoples' lives depending on the magnitude of the disasters. It is clear that disasters have negative impact on the economy and peoples' lives. Though, Botswana experiences disasters that have impacted negatively on its growth, the country lacks specific legislation to support implementation of a disaster preparedness plan in the country. Further, a review of literature indicated that Botswana lacks specific plans for disasters that may lead to destruction of public records. This study therefore sought to assess disaster preparedness, management and recovery of records at the Ministry of Youth, Sports and Culture.

The population of the study included respondents drawn from Ministry of Youth, Sports and Culture-Department of Corporate Services and Botswana National Archives Records Services. The study was a quantitative and purposive sampling was used to select respondents for the study. Data for the study was collected through key informant interviews, survey, document review and the direct observation. The study revealed that Botswana lacks specific legislation on disasters and that the Ministry of Youth Sports and Culture- Department of Corporate Services and Botswana National Archives and Records Services have developed a draft disaster preparedness plan for records which is yet to be approved and implemented. Botswana's preparedness for records disasters is good though not advanced. The country has never experienced deadly disasters such as earthquakes and wars but is prone to disasters such as floods, fires and poor storage. The Ministry of Youth, Sports and Culture and the Botswana National Archives and Records Services are the major stakeholders and custodians of heritage but are not committed to establishing a disaster preparedness plan which is long overdue. Botswana is not ready to deal with major disasters because of inadequacy of resources for safe keeping of records as most records are in paper form. There is also shortage of skilled personnel to deal with records disasters should they occur. The key recommendations are that Botswana National Archives and Records Services should complete the disaster preparedness plan and implement the plan and then cascade the disaster preparedness plan to its sister departments.

Keywords: records; disasters; management; preparedness; recovery

List of Acronyms and Abbreviations

AIDS: Acquired Immune Deficiency Syndrome

BNARS: Botswana National Archives and Records Services

BDF: Botswana Defence Force

BPS: Botswana Police Services

DBES: Department of Buildings and Engineering Services

DCS: Department of Corporate Services

DPP: Disaster Preparedness Plans

DPS: Deputy Permanent Secretary

DRM: Disaster Risk Management

DRR: Disaster Risk Reduction

HFA: Hyogo Framework for Action

HIV: Human Immune Deficiency Virus

ICJ: International Court Of Justice

IDS: Intrusion Detection System

IRMT: International Records Management Trust

MYSC: Ministry of Youth Sports and Culture

NCDM: National Committee on Disaster Management

NDMO: National Disaster Management Office

NDMTC: National Disaster Management Technical Committee

OP: Office of the President

RMC: Records Management Committee

RMU: Records Management Unit

SADC: Southern African Development Committee

SSA: Sub-Saharan Africa

SPSS: Statistical Packages for Social Sciences

UNISDR: United Nations International Strategy for Disaster Reduction

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Chapter 1: Introduction

1.1 Background to the Study

The purpose of the study was to assess disaster preparedness, management and recovery of records at the Ministry of Youth, Sports and Culture. However, only two units were chosen, i.e. the Department of Corporate Services the Botswana National Archives and Records Services. Disasters occur anytime without any warning. They are unpredictable and they cause damage to property and organizational assets. Disasters may be natural or man-made. State Records of South Australia (2012) identified natural disasters to include earthquakes, cyclones, bush or veld-fires, floods, vermin, lightning strikes and wind storms whereas man-made disasters include structural or building failure (malfunctioning sprinklers, heating or air-conditioning systems, leaks in roofs, poor wiring and drainage or power failure) and theft, vandalism, riots, bombing, terrorism and wars.

Botswana is a country that prides itself in its rich cultures and history. Most of this history is preserved in national museums and the Botswana National Archives and Records Services. The Botswana National Archives and Records Services was established under the National Archives Act of 1978, and amended in 2007. The department provides records and information management services to government agencies such as collecting, preserving and making accessible the nation's documentary heritage to Batswana (Government of Botswana, 2012b). Records play a vital role in preserving histories of countries. Perry (2000) argued that Botswana has managed to thwart a civil war with Namibia in 1996 over the Sedudu Island. Records proved to be valuable evidence as they managed to save what could have been a bloody disaster for both Namibia and Botswana (Perry, 2000), as wars threaten the lives of many people and even displace them. The Treaty document of 1st July 1890 between the Great Britain and Germany concerning their spheres of influence in Africa was used as evidence at the International Court of Justice. It is therefore important to keep records safe away from disasters or have a well-functioning records management system.

Records can be in paper format and electronic form. According to The State of Florida (2010), an electronic record is any information that is recorded in machine readable form. Electronic records include numeric, graphic, audio, video, and textual information which is recorded and transmitted in analogue or digital form such as electronic spreadsheets, word processing files, databases, electronic mail, instant messages, scanned images, digital photographs and multimedia files. The State of Florida (2010) also defines an electronic record system as an

automated information system for the organised collection, processing, transmission, and dissemination of information in accordance with defined procedures. Records are created on materials that are susceptible to damage caused by mishandling, biological agents, unstable environmental conditions, technological obsolescence, and natural and human induced disasters (Kootshabe, 2011). According to The World Bank (2000), failure to manage records properly impedes the capacity to carry out economic and administrative reform programs aimed at achieving efficiency, accountability and enhanced services to citizens. Moreover, the decline and in some cases total collapse of record keeping systems makes it virtually impossible to determine responsibility for actions and hold individuals accountable. The World Bank (2000) asserted that records are virtual every aspect of the governance process. The effectiveness and efficiency of the public service across the range of government functions depends upon the availability of and access to information held in records. The bank argued that badly managed records adversely affect the broad scope of public service reforms, and development projects are often difficult to implement and sustain effectively in the absence of well managed records. It is for this reason that organisations need to develop a records management programme that would effectively manage records and prevent disasters from destroying them (whether man made or natural) to avoid loss of records.

Wilkinson, Lewis and Dennis (2010) revealed that disasters have the potential to harm and destroy library and archives collections, facilities, equipment and cause injuries or death to employees and customers. IRMT (1999) and NDMO (2013) asserted that disasters hit and threaten valuable assets of organizations. IRMT (1999) stated that there is a need for organizations to be prepared and be able to respond to disaster attacks and ensure recovery of vital data, continue business operations and protect their reputation. Nicholas (2001) stated that complete recovery plans minimises the impact caused by disasters. He further stated that it is vital for organizations to make efforts to curb the effects of disasters through disaster preparedness plans. Loosing or not being able to retrieve vital documents or records can lead to business operations disruption or shutdown. The World Bank (2000) argued that without records, there can be no rule of law and accountability. Organisations must have information to carry out their work, and records represent a particular crucial source of information. Records provide a reliable, legally verifiable source of evidence of decisions and actions (The World Bank, 2000). Karen (2009) argued that though an emergency does not have to become a full-fledged disaster, many organizations often learn the advantages of emergency preparedness through hard experience.

Today, most governments strive to implement e-government with the consequent generation of large amounts of records in electronic format (Moloi, 2009). Botswana has also taken a stance in introducing electronic records. Increasingly, the world over, governments recognise the need to use information and telecommunications technologies (ICTS) to facilitate information flow and efficient service delivery. Moloi (2009) asserted that this paradigm shift has seen e-records being increasingly generated by most governments worldwide. The greatest challenge though, as stated by Moloi (2009), lies in the management and preservation of such records as evidence of business transactions to enable governments to capture the corporate memory and retain the national documentary heritage.

According to Neuman (2007), many studies are guided by theoretical or conceptual frameworks. He asserts that a theory can be used to guide research. He stated that a deduction approach or induction approach (building towards a theory) can be adopted. This study adopted the Disaster Management Cycle theory as a theoretical framework guiding this study. The theory explains all the necessary steps and actions to be taken to prevent a disaster as well as measures that needs to be taken after a disaster occur. This study assessed the disaster preparedness, management and recovery of records at the Ministry of Youth, Sports and Culture in order to propose measures for effective response on disasters likely to affect records at MYSC.

1.2 Disaster Management in Botswana

In Botswana, the management of disasters falls under the National Disaster Management Office (NDMO). According to the Office of the President, Botswana (2011), the NDMO was established in 1998 under Development Division in the Office of the President. NDMO oversees activities of government sectors and ensures that all elements of disaster management are integrated into National Development Plans (NDPs) (Office of the President, Botswana, 2011). In addition, its main focus is to inform, educates and provides public awareness, operations control and coordination, logistics and communications.

The NDMO has developed a number of policies and strategies for managing disasters in the country. However, it is upon institutions to develop their own disaster management policies based on their own organizational priorities and objectives. Botswana Red Cross Society and the International Federation of Red Cross and Red Crescent Societies, Geneva (2013) argued that NDMO is responsible for the implementation and monitoring of Disaster Risk Management (DRM) activities in the country. Specifically NDMO is responsible for:

(i)   providing overall coordination of DRR activities in Botswana;

(ii)   development of tools, techniques and systems to ensure effective implementation of DRM implementation for components such as hazard identification, vulnerability, and risk assessment, emergency operations in conjunction with all other levels of government, NGOs, the private sector and communities;

(iii)   facilitation of the development and implementation of disaster risk reduction activities at sector as well as district and community levels; coordinating/facilitating capacity development activities to ensure disaster resilience among all the sectors and communities in the country;

(iv)   Mobilization of resources for disaster risk reduction and response activities.

Botswana has made a progressive effort in dealing with disasters. According to the Southern African Development Community (2010), Botswana hosted a pre-season preparedness and planning workshop in Gaborone in 2010. The workshop was aimed at strengthening partnership for effective disaster risk reduction. Botswana made a move in disaster management by being a SADC member, as the committee is entrusted with ensuring fast reaction and developing of effective contingency plans. The National Disaster Management Office (2008) opined that there is a National Disaster Risk Reduction Strategy for 2013 – 2018 which was formulated in 2010. The United Nations Development Programme (2005) outlined that such strategies are important as they are meant to guide and act as a framework for disaster risk reduction implementation in the country. The aim of the plan was to:

1. Establish and incorporate the foundational guiding arrangements for disaster risk reduction in the country;

2. Increase awareness and knowledge of disaster risk reduction methods and opportunities;

3. Inform the legal and institutional basis for efficient disaster risk reduction planning and implementation;

4. Contribute towards the inclusion of disaster risk reduction into development policy, programmes and projects;

5. Establish a strategic platform for public-private-sector co-operation in disaster risk reduction; and

6. Contribute to community resilience against the threats and effects of disasters.

The National Disaster Management Office (2008) made an emphasis that;

> "More attention will be paid to making development more sensitive to the impacts that climate (and global) change will have on land and water resources in particular and on how disaster risk management will be integrated into development planning. Without proper planning, the lack of adaptation to the climate change may have an impact heavily on the country's long term development"

The above statement indicates the importance of having effective measures to reduce the impact of disasters such as loss of lives and economic downsizing or under-development of the nation. The National Disaster Risk Reduction Strategy: 2013-2018 is an approach aimed at guiding or a framework for disaster reduction and implementation in Botswana. According to the National Disaster Management Office (2008), the policy was developed to cater for the prevention, mitigation, preparing for, response, recovery and development. In addition, the policy boosts the integration of disaster management into national development plan.

Though Botswana has an established a national disaster office, the office is responsible for saving lives. Whenever a disaster occurs or hit a place in Botswana, the NDMO is the first entity to occupy the affected area with the sole purpose of saving lives, with little or no attention paid to saving records. There is need for this office to have people trained in records disasters who would give more attention to rescuing records as records have proved to be very useful in the lives of Batswana.

1.3 Location of the Study

This study was conducted at the Ministry of Youth, Sports and Culture. However, only two units were chosen, i.e. the Department of Corporate Services and the Botswana National Archives and Records Services. The Ministry of Youth Sports and Culture was established in 2007 (Government of Botswana, 2012a). The Ministry's mandate is the coordination and implementation of culture and youth, national library services, sport and recreation and national archives and records services programmes and activities. The Ministry is situated in the Central Business District (CBD) in Gaborone.

The Department of Corporate Services is a unit in MYSC responsible for coordinating all departments and units under the ministry. All ministries have a department called corporate services. The department acts as the headquarters for any ministry in Botswana, and it is usually headed by the Permanent Secretary. The Department of Corporate Services acts as the core unit for the ministry. Botswana National Archives and Records Services (BNARS) is one of the departments under the Ministry of Youth, Sports and Culture. The department was established

under the National Archives Act of 1978, which was amended in 2007. The core function of the department is to provide records and information management services to government agencies such as collecting, preserving and makes accessible the nation's documentary heritage to users. Advisory services are also given to all government ministries and departments to ensure the best practices in the management of public records (Government of Botswana, 2012b). The Act makes provision for records which are twenty (20) years and above to be opened for public inspection.

BNARS operates three records centres at Gaborone, Francistown and Kanye. These Records Centres provide intermediary storage facilities for semi-current records originating from public institutions. Ramokate and Moatlhodi (2009) stressed that BNARS takes care of the management of the archives repository, Records Centres and provides guidance on the management of records to all the government departments. BNARS was specifically selected for this study as it is the government Department responsible for advising the nation on all matters pertaining to the management and preservation of records and archives.

The choice of the Ministry of Youth, Sports and Culture and the Botswana National Archives and Records Services was premised on the notion that both organisations are major stakeholders of records and have been mandated with the responsibility of managing the country's public records. It is therefore important for these organisations to be well prepared in terms of records disasters. Botswana relies on the two organisations for specialised expertise on records management including personnel, skills, and equipment in order to prevent and save public records from disasters. For over a long period of time, all records personnel were recruited by BNARS and seconded to all government institutions until recently where this arrangement was decentralised for all ministries to recruit records management staff for themselves. Though that is the current arrangement, BNARS is still responsible for coordinating all records services in the public sector. From time to time, BNARS conducts regular workshops and seminars for all records management staff to capacitate them on all issues affecting records management. BNARS is also responsible for ascension of records, where records are selected for disposition (for archival or destruction) and this is where useless records are destroyed and vital records are duplicated and preserved at offsite locations such as records centres.

1.4 Statement of the Problem

Many public organizations lack disaster preparedness plans for managing records. Magazi and Ngulube (2006) argued that public institutions in the Sub-Saharan Africa (SSA) region lack disaster preparedness plans. Ngulube, Modisane and Mnkeni-Saurombe (2013) revealed that disasters have struck archives and cultural institutions worldwide. Examples of institutions affected by disasters around the world include; the National Library and Archives of Iraq where collections were burnt by fire in 2003, public libraries in the United States of America where records were damaged by hurricanes in 2005 and five (5) public libraries in Mpumalanga, South Africa which experienced fire outbreak and collections were damaged in 2010.

IRMT (1999) indicated that organizations need to develop disaster preparedness plans to protect organizational assets including records and archives. Ngulube, Modisane and Mnkeni-Saurobe (2013) argued that disaster preparedness plans are vital for the protection and preservation of records and archives. A study by Hlabangaan (2006) revealed that most organizations in Botswana lacked disaster preparedness plans. On the other hand, disaster preparedness plans for records in Botswana is not one of the priorities of the government. The National Disaster Management Office's main focus is on saving lives and providing temporary shelter to those affected by disasters. A study by Kilasi (2010) in Tanzania established that public organizations lacked disaster preparedness plans aimed at protecting records during disasters. The fact that public organizations lack disaster preparedness plans makes library and archives prone to disasters. A study by Kootshabe (2011) in Botswana revealed that there is lack of disaster preparedness plans for records management in government ministries in Botswana. Therefore, this study sought to assess the disaster preparedness plans for managing records in the Department of Corporate Services of the Ministry of Youth Sports and Culture and Botswana National Archives and Records Services.

1.5 Objectives of the Study

The aim of this study was to assess disaster preparedness, management and recovery of records at the Ministry of Youth, Sports and Culture in order to propose measures for effective response on disasters likely to affect records at MYSC. Specifically, the study sought to:

1. Establish the legal framework on disaster management in Botswana.
2. Identify disasters that have affected records held at Ministry of Youth, Sports and Culture-Department of Corporate Services and Botswana National Archives and Records Services.

3. Assess the level of preparedness for disasters for records in the Department of Corporate Services of the Ministry of Sports Youth and Culture and at BNARS.

4. Identify measures put in place to reduce the impact of disasters on records before, during and after disasters at MYSC-DCS and BNARS

5. Determine the methods used in the protection of electronic records against disasters at MYSC-DCS and BNARS

6. Propose measures for effective response on disasters likely to affect records at MYSC-DCS and BNARS.

1.6 Research Questions

This study sought to address the following research questions:

1. What laws or policies exist in Botswana relating to disaster management?

2. Which are the potential disasters that are likely to affect records at MYSC and BNARS?

3. How prepared is the Department of Corporate Services of the Ministry of Youth, Sports and Culture and BNARS to deal with disasters in their organisations?

4. What measures have been put in place to protect records before, during or after disaster strikes in MYSC-DCS and BNARS?

5. What methods are used to protect records generated electronically against disasters at MYSC-DCS and BNARS?

6. What measures need to be put in place to protect records before, during or after disaster strikes at MYSC-DCS and BNARS?

1.7 Scope and Delimitation of the Study

This study was carried out at the MYSC-DCS and BNARS in Gaborone. These two departments under MYSC were selected as case studies because of the following reasons:

The Department of Corporate Services and the Botswana National Archives and Records Services are departments or units located within the Ministry of Youth, Sports and Culture. The Department of Corporate Services coordinates and implements the culture and youth, national library services, sport and recreation and national archives and records services programmes and activities. The department is responsible for coordinating all departments and units within the ministry. The department exists to create an enabling environment for youth

empowerment, sport development and preservation of culture and heritage through collaboration with relevant stakeholders (Government of Botswana, 2012a). Botswana National Archives and Records Services collects and preserve records of enduring value.

Although Botswana has a National Disaster Management Office to cater for the management of disaster at national level; this study excluded the office because it does not necessarily deal with records management issues across the country. The office is mandated to deal with disaster management and safety of the people during disasters in the country. The researcher experienced the following limitations when conducting this study. Some of the respondents were not very cooperative arguing that they were busy with their daily duties hence their failure to participate in this study. Some of the respondents delegated their juniors to answer the questions instead of them taking part in this research. Other respondents took a long period to complete the questionnaires while others misplaced the questionnaires. The researcher had to constantly remind the respondents to complete the questionnaires, and replace questionnaires that had been lost by some of the respondents. The researcher was therefore compelled to make several visits to such respondents as well as make several telephone calls. This enabled the researcher to collect more completed questionnaires. The unavailability and inability of the intended respondents did not affect this study in any way since the interviewed respondents filled the gap. The researcher believed that all participants responded truthfully to the research questions hence the unavailability of the intended participants brought no harm to the study. Despite these limitations, the study collected sufficient data and came up with major findings and recommendations.

1.8 Justification and Significance of the Study

Hlabangaan (2006) and Kootshabe (2011) indicated that there was need for the development of disaster preparedness plan for records keeping in the public sector in Botswana. This study therefore sought to assess the existence of disaster preparedness plan for records in Botswana using MYSC and BNARS as case studies. This study emphasized the importance of designing a disaster preparedness plan for managing records in the public sector. Disaster preparedness plans are capable of reducing the impact and loss of valuable information. A disaster preparedness plan is a key element in preserving records and archival materials for future use. The findings of this study are of immense value due to the following reasons:

1. To the MYSC-DCS and BNARS, this study is of great value since the findings of the study can be used to develop disaster preparedness plan for records at all government

Records Centres and Records Management Units where BNARS is the advisory board on the management and preservation of archives and records.

2. The study will also contribute to the body of knowledge on records management in Botswana and where few disaster management and records management have been undertaken.

1.9 Organization of the Study

This study is organized into five chapters.

Chapter One provides the introduction and background information to the study, the statement of the problem, objectives of the study, research questions, scope and limitations of the study and significance of the study.

Chapter Two presents the literatures review concerning the theoretical framework, disaster preparedness and records management.

Chapter Three provides the methodology that was used to collect data for the study. This includes the research design, population of the study, procedures for population sampling, instruments for data collection, data analysis and ethical considerations.

Chapter Four presents the findings of the study, as well as discussion of the findings.

Chapter Five provides a summary of the findings, conclusions drawn from the study, recommendations and areas for further research.

The chapter that follows below is on literature review for this study.

Chapter 2: Literature Review

2.1 Introduction

This chapter reviews literature related to protection of records. In reviewing literature, themes are used for the discussions which include the theoretical framework guiding this study, legislative framework on disaster preparedness in Botswana, disasters affecting public records, disaster preparedness for records, vital records management, protection of electronic and paper based records, challenges faced by organizations in managing and archiving records and possible measures aimed at minimizing the impact of disasters on records management in the public sector Botswana. According to the University of Southern California (2016), literature review consists of simply a summary of key sources.

Boote and Beile (2005) argued that literature review is not conducted just for the sake of searching information. It goes beyond that as it identifies and articulates relationships between the available literature and that of the researcher's topic. They also pointed out that literature review has some benefits such as providing context for the research, justifies the research, ensures that the research has not been done before or is not a replication study, enables the researcher to learn from previous theory on the subject and also outlines the gaps in the previous research.

2.2 Theoretical Framework

A research project is guided by theoretical or conceptual framework. According to Rockinson-Szapkiw (n.d.), theoretical framework shows how a research fits into what is already known (relationship to existing theory and research) and how your research makes a contribution on the topic to the field (its intellectual goals). This study adopted the disaster management cycle as a theory. The disaster management cycle was used in this study so as to deal with managing disasters.

According to Khan, Vasilescu and Khan (2008), Disaster Management cycle is all the activities, programmes and measures which can be taken up before, during and after a disaster with the purpose to avoid a disaster and reduce its impact or recover from its losses. They outlined three key stages of activities that are taken up within disaster risk management as follows: before disaster (pre-disaster), during a disaster (disaster occurrence) and after a disaster (post-disaster). The disaster management cycle provides all phases that need to be done before the disaster occurs and even after disasters strike to minimise damage or loss of human

life and property. In this essence, public records are regarded as government property as their loss due to disasters cost government fiscal constraints and historical value of the organisations.

There are various theoretical approaches that have been used to deal with disaster management and related subjects across the community. These theoretical framework are wheel-bound, that is, trying to solve the problem from the root level. The disaster management cycle is used to guide this study. The disaster management cycle is concerned with minimising the impact of disasters from their birth (preliminary stage) up till after the disaster strike.

2.2.1 Disaster Management Cycle Theory

The disaster management cycle involves three key stages. According to Khan et al. (2008), the disaster management cycle's three stages include before a disaster (pre-disaster), during a disaster (disaster occurrence) and after disaster (post disaster). The pre-disaster phase involves the activities that are taken to reduce human and property losses caused by a potential hazard. Carrying out awareness campaigns, strengthening the existing weak structures, preparation of the disaster management plans at household and community level are the initial stages of preparing for disasters before happening. These measures are taken under a stage termed as mitigation and preparedness activities. For example: employee or staff empowerment on disasters and how to react when disasters occur are vital in preparation for disasters.

In this stage of disaster occurrences, there is need to ensure that the needs and provisions of victims are met and suffering is minimized. Activities taken under this stage are called emergency response activities. For example: procedures for evacuating the scene, emergency exit or doors should be clearly labelled in order to minimise injuries as emergency contacts must be also be clearly stated. The third phase called after a disaster (post-disaster), involve initiatives taken in response to a disaster with a purpose to achieve early recovery and rehabilitation of affected communities, immediately after a disaster strikes. These are called as response and recovery activities. Therefore, archives and records can be salvaged from disaster through measures put in place such as fire suppression to put off the fire, regulating of storage temperature to avoid records deterioration.

Furthermore, disaster management cycle is also concerned with the preparedness, mitigation, response and recovery as the core activities in dealing with disasters. Long (2009) argued that the government takes more control of situations and decisions after a disaster has occurred. This statement has been confirmed by Hlabangaan (2006) who states that public organisations in Botswana lack disaster preparedness plans. Therefore, disaster management theory

encompasses the understanding of disaster, its effects, minimizing or reducing the risk and recovery from the disaster. Long (2009) opined that in trying to come up with answers to how society reacts, how disasters happen, and a variety of other reasons, assumptions and reactions that occur before, during and after a catastrophe, professionals and scholars alike have sought to create one theory about disaster that entails one fits all approach in addressing disasters.

The disaster management cycle also emphasizes on the steps to be taken to mitigate these disasters from happening, and when they do, working towards a more managed response and recovery efforts. Therefore, the disaster management cycle provide a framework for measures put in place to protect archives and records before, during and after disaster strike. The main focus of this study was to assess the level of preparedness of the Department of Corporate Services at Ministry of Sports Youth and Culture and Botswana National Archives and Records Services for disasters that are likely to impact upon records management programmes and to develop a disaster preparedness framework for dealing with such occurrences. Therefore, the disaster management cycle entails the range of initiatives which normally occur during both the emergency response and recovery stages of a disaster. The theory also offers the foundation for dealing with disasters (before, during and after) and guidance on coming up with strategies and guidelines for disaster management.

In the application of this theoretical framework, both MYSC and BNARS have measures in place to prevent the occurrences of records disasters (pre-disaster phase). Both organisations conduct regular workshops to sensitize its staff and other stakeholders on handling records. Other measures include the storing of back up records at offsite locations as well as regular servicing of firefighting equipment and also conducts regular fire drills. It is important to note that the first stage is the most critical stage in preventing a disaster as it is difficult to manage the situation once a disaster has occurred.

For the second stage, which is during a disaster phase, MYSC and BNARS assume relevant measures would be observed which include safe evacuation of the affected buildings as well as calling in other agencies for assistance such as fire fighters. Though MYSC and BNARS have never experienced disasters, both organisations conducts regular drills and rehearsals to prepare themselves before hand in case such emergencies occur. In addition, the firefighting equipment such as fire extinguishers are regularly serviced, therefore, meaning that the organisations are capable of mitigating against such disasters in case they occur. Since MYSC and BNARS have never experienced disasters, it is safe to argue that both organisations are capable of

implementing the last stage of the disaster management cycle. This is because both organisations have made proper arrangements such as keeping duplicate records at an offsite location. They also have skilled personnel and equipment for managing such records at the records centres. This final step requires the organisations to recall all the backup records for use and returning the organisations to normal.

2.3 Disasters

The Virtual University for Small States of the Commonwealth (2013:12) defines a disaster as a natural or human-caused event which causes intensive negative impact on people, goods, services and the environment, exceeding the affected community's capability to respond. Disasters may be huge or small depending on their effect or form. Abdulwahab, et al (2012) emphasized that disasters can be of temporary or permanent basis thus making the information contained in a document inaccessible. The State Records of South Australia (2007:8) stated that records are always potentially at risk of disaster. Their loss in a disaster can be crippling for the responsible organisation. They argued that disasters affecting records may include:

1. Natural events or hazards including earthquakes, cyclones, bushfires, floods, vermin, lightning, strikes, windstorms,
2. Structural or building failure such as malfunctioning sprinklers, heating or air conditioning systems, leaks in roofs, poor wiring, sewer/storm water/ drainage failure and energy failure,
3. Industrial accidents such as nuclear or chemical spills, fire, explosions, gas leaks, falling objects damage,
4. Technological disasters such as viruses and computer equipment failures,
5. Criminal behaviour such as theft, arson, espionage, vandalism, riots, bombing, demonstrations, terrorism and war,
6. Accidental loss through human error,
7. Storage conditions that are not suitable for media stored and natural decay of materials.

In addition, The State Records of South Australia (2007) described a disaster as an unexpected event with destructive consequences either small or large scale events depending on the value of the property or information lost during the disasters. According to IRMT (1999), a disaster is an unexpected event with seriously destructive consequences to buildings, facilities and records. Abdulwahab et al. (2012) also defined disaster as an event that results in sudden removal of records and documents from accessibility and use. A typical example of a disaster as stated by the State Records of South Australia (2007:7) is of "a water leaking affecting one

shelf of an organisation's records may only be a small scale emergency but it can be considered a disaster if the materials affected is of significant value resulting in financial loss or legal action". In an information context, disaster is any incident which threatens human safety, damages or threatens to damage library building collection that is items, equipment or systems.

The University of Sydney Archives and Records Management Services (2006) asserted that disasters may be small, such as power failure leading to some data loss or large such as fire or explosions. According to Saffady (2005), records can also be damaged or destroyed by human induced accidents such as fire or lack of knowledge about the consequences of specific actions. Records in all formats can be destroyed or damaged by any disaster that occurs. Kilasi (2010) emphasized that paper and electronic records can be destroyed by disasters such as fire, floods, pest infestation, and unauthorised intrusion, computer and power failure and bomb threats. The Canadian Council of Archives (2003) posited that disasters have major effects on records and archival materials. For example: fire burns out paper records fairly and slowly thus completely damaging the collection. In case of earthquake occurrence, storage equipment trembles and collapse and the records and archival materials can be thrown on the floor and get damaged by the building particles falling form cracks made by the earthquake.

Doig (1997) asserted that thousands of facilities worldwide have suffered damage from disaster. He lamented that some of the disasters have destroyed local, state and commonwealth agencies' records. According to Doig (1997: pp.8-9), Australia has in the past experienced the following disasters which damaged records.

- Floods occurred in Brisbane (1974) - where the Department of Children's Services suffered the damage as its files were soaked in two metres of water for two days including vital and unduplicated records relating to adoptions. Staff at Queensland State Archives headed recovery efforts
- Cyclone Tracy in Darwin (1974) – many governments department suffered losses. Boxes files and those in filing cabinets fared well but exposed were mouldy and a deplorable condition. The Australian archives set up a reclamation centre in Brisbane to treat them.
- Flooding at Hobart (1994) - over Christmas, water from a heavy rainstorm partially flooded the strong room of a government agency. Some materials were air dried successfully but other records were lost.

- Fire, Fremantle (1994) - there was a fire following a break-in at the law courts. There was no sprinkler system and the majority of paper records were destroyed. Paper materials that survived were badly damaged.

The above examples show how public organisations in Australia were affected by the disasters.

The International Federation of Red Cross and Red Crescent Society (2013) pointed out that effective communication strategies increase the safety and resilience of communities and people. The society pointed out that the national public campaigns, partnerships with education authorities for developing educational materials for schools, mobilising peer education, training and organising communities through community based risk reduction and the use of disaster response operations can be used as opportunities for improved disaster awareness. The State Records of South Australia (2007) argued that capacity building is a strategy to make people aware of the disaster reduction plans. Ngulube et al. (2013) emphasized that training in an emergency planning and response should be given attention.

Baptise (2009) argued that education or empowerment of citizens and stakeholders can be used to inform them about the disaster preparedness plan put in place. It is through planning and preparing that people may be made aware of the disaster preparedness plan. The right communication media should be used to convey the message to the right people. Abdulwahab et al. (2012) stated that disaster preparedness plans minimize damage to the collections and help to recover from disasters. According to Kootshabe (2010), disaster preparedness, management and control are one of the key areas of preservation management which ensures that records are protected from human induced and natural disasters. It is important for organisations dealing with disasters to know and understand disasters that are likely to affect them in order for them to prepare in advance. The Ministry of Youth, Sports and Culture and Botswana National Archives and Records Services must be aware of the different types of disasters that are likely to occur in Botswana and when they are likely to occur as this enables them to be well prepared in preventing and dealing with such occurrences as different disasters are dealt with differently.

2.4 Legislative Framework on Disaster Preparedness in Botswana and other African Countries

African communities have always been resourceful when adapting to their environment and today's threats forcing them to become ever more resilient (The International Federation of Red Cross and Red Crescent, 2011). The Federation argued that Africans are bracing against the rising toll of natural disasters. Due in part to the effects of climate change, extreme weather events are on the rise in many parts of the continent. On the one hand, the Federation argued that the Sahel region and the Horn of Africa suffer droughts so persistent that crops won't grow and millions of people are deprived of basic food necessities, sometimes amounting to a veritable famine in particularly vulnerable places like Somalia. On the other hand, many other parts of the continent are prone to flooding such as in Congo and Angola, and in Mozambique such as in 2000 and 2001. The International Federation of Red Cross and Red Crescent (2011) asserted that many of these disasters are not recurring types though and may be predictable. As a consequence, their risks may be mitigated through advance planning and preparation and a number of African governments are doing just that.

Inspired by the Hygo Framework For Action, the flagship global instrument in the area of disaster risk reduction, and the African Disaster Risk Reduction Strategy, governments across the continent have been strengthening institutions, plans and mechanisms to increase their capacities for disaster management (The International Federation of Red Cross and Red Crescent, 2011). In order to establish a firm foundation for these efforts, African countries need strong disaster laws. Disaster laws, according to the Federation, serve a number of critical functions. They set out clear roles and responsibilities among agencies and the various levels of government, establish funding and accountability mechanisms and regulating private behaviour that might increase disaster risks. They can also create a supportive environment for the engagement of civil society and communities in reducing disaster risks and mitigating their impacts. The International Federation of Red Cross and Red Crescent (2011) argued that without a comprehensive disaster management act, it has often proven difficult to guarantee that disaster risk reduction and preparedness measures are accorded proper priority among the many daily tasks facing government and that the many agencies and sectors of society that need to be involved are adequately motivated and coordinated.

Botswana is susceptible to various types of disasters both natural and man-made. The most common disasters known to have had an impact on Botswana are as follows; floods, fire and

strong winds. The National Disaster Management Office (2013) argued that floods and fire out-breaks destroy peoples' livelihoods, environment, private and public property. Though, Botswana is prone to disasters, the country lacks legislation on disaster management. District Disaster Relief Supplies Inventory (2005) confirmed that indeed National Disaster Management Office in Botswana had not developed the legislation to coordinate enforcement on disaster management. In addition, The Attorney General Chambers Deputy Secretary for International and Commercial Services at a disaster management workshop at Gaborone as quoted by Kajevu (2012) noted that Botswana lacks explicit disaster legislation. It is also stated that in the case where there is presence of the legislation it deals with the prevention rather than protection and covering disasters indirectly focusing on inspection (Kajevu, 2012).

According to Office of the President (1996), Botswana has over the years experienced various types of disasters such as floods, veld-fires, epidemics, pest infestation and industrial accidents and chemical spill. The government has developed integrated series of activities for providing effective early warnings and response when drought occurs. The Office of the President (1996) indicated that little effort had been made to respond to other disasters that might occur and there had been little or no emphasis on other disasters mitigation within the national development plan and associated programmes. For other disasters, no integrated institutional framework has been developed. NDMO (2013) emphasized that no specific legislation had been passed in Botswana to support the implementation of disaster risk reduction. However the government established the National Committee on Disaster Preparedness (NCDP) in 1993 partly to provide a channel for the active participation of Botswana in the UN's International Decade for National Disaster Reduction (IDNDR).

On the other hand, the multi- sectoral disaster preparedness committees were also formed within some district councils, town councils and Gaborone City Council to deal with disaster management in the country. Disaster management structures existed in some sectoral ministries even if they are not yet formalized (Office of the President, 1996). In addition, there are other developments on disaster management in Botswana. The country has the NDMO is a government department office under the Ministry Of Presidential Affairs and Public Administration that coordinate disaster risk reduction related activities in the country (NDMO, 2013). At the district level, the similar role is performed by the District Commissioner's office which coordinates activities at the district level with assistance of the District Disaster Management Committee members which is formed by various government departments heads and Non-Governmental Organizations representatives at national level. National Committee

for Disaster Management (NCDM) guides NDMO in the policy development and implementation, the National Disaster Management Technical Committee (NDMTC) provides technical guidance to the National Committee on Disaster Management so that they can make better informed decisions.

Furthermore, UNISDR (2010) revealed that in general, Botswana has an effective system and strategies responding to unknown disasters. The disaster management issues in Botswana lies with The Office of the President, coordinated through the offices of District Commissioner at community levels. The Ministry of Presidential Affairs and Public Administration oversees the implementation of national disaster risk reduction strategies, policies and programmes, including advising the President when to declare a state of disaster (Office of the President, 2009). The Office of the President, Botswana (1996) states that the National Policy on Disaster Management was prepared in 1996 and approved through the Presidential Directive No. CAB.27/96.

This policy objectives were to: (a) establish and maintain systems for dealing with disasters other than drought/ famine in Botswana and to integrate three systems into normal ongoing development activities at national, district and local levels, achieving these as far as possible within national resource capacity; (b) create a framework which facilitates the preparation of plans and legislation for the effective implementation of disaster management in Botswana and its legitimacy; (c) to outline the responsibilities of different personnel at different levels in the implementation of disaster management programmes; (d) establish a set of working definitions for the disaster management programmes in Botswana and; ensure that the disaster management policy is consistent with policies from other sectors and the objectives of the national development plan. It is concluded that the policy was meant to deal with the prevalent disasters in Botswana such as floods, veld fires, pest infestations epidemics and severe weather conditions.

The NDMO (2013) established that Botswana developed a National Disaster Risk Management Plan (2009) which is geared to deal with disaster management in the country. This plan was aimed at addressing all aspects of disaster risk management in the country. Disaster risk reduction needs to be planned and implemented in a focused manner and hence the need for this strategy to guide and act as a framework for disaster risk reduction implementation in the country. UNISDR (2010) emphasize that the national disaster response plan are at draft stage. In essence, these developments shows that Botswana is not on it comfort zone hence has a

liability to prevent and rescue its people and property from the disasters impact through formal legislations on national disaster management.

International Federation of Red Cross and Red Crescent (2011) argued that African countries have made a collaborative effort in the fight against disaster consequences. It is stated that countries like Benin, Mali and Sierra Leone have a national platform concentrating on efforts to reduce disasters (International Federation of Red Cross and Red Crescent, 2011). Southern African Development Committee (SADC) seeks to increase the numbers of its members through its newly drafted disaster risk reduction policy. Therefore, other countries are progressively making a mark in dealing with disasters.

In the past, South Africa has faced a number of disasters such as drought, cyclones, severe storms, fire and floods (International Federation of Red Cross and Red Crescent, 2011). According to South Africa National Disaster Management Framework (2005: p.1), Cape Town was disadvantaged by floods thus lead to the development of a draft legislation in 2000. South Africa National Disaster Management Framework (2005) stated that South African government developed a Disaster Management Act, 2002 which provides for the following.

1. An integrated and coordinated disaster risk management policy that focuses on preventing or reducing the risk of disaster, mitigating the severity of disasters, preparedness, rapid and effective response to disasters and post disaster recovery,
2. The establishment of national, provincial and municipal disaster management centres,
3. Disaster risk management volunteers and,
4. Matters relating to these issues (engaging communities to deal with disaster through awareness and empowerment).

Furthermore, South Africa has a framework on disaster management. International Federation of Red Cross and Red Crescent (n.d) pointed that the country has a detailed National Disaster Management Framework for dealing with disaster such as fire, mine, health and safety, sporting and cultural events and disasters associated to the environmental impacts and water resources.

2.5 Disaster Preparedness Plans for Records

A disaster management plan is a strategic plan meant for saving and protecting records before or after disaster. A disaster preparedness plan should adequately cover the storage of public records. A disaster preparedness plan is a document that describes the procedures formulated to prevent and prepare for disasters and those proposed to respond to and recover from disasters when they occur (Abdulwahab et al., 2012). The disaster preparedness plan needs to be supported by a comprehensive framework that will serve as a foundation during disasters (National Emergency Management Agency, 2013). Abdulwahab et al. (2012) proposed that the disaster preparedness plan should have three phases that are preventive, preparedness and after phase.

The prevention phase covers the actions that are needed to prevent disasters. The preparedness phase includes identifying disasters; and putting up measures to be taken when disasters strike. The preparedness phase also seeks to identify important documents and training staff to enable them to respond to various disasters. The after phase or the recovery phase focuses on how to cope and ensuring business continuity through salvaging vital business information or records. The Canadian Council of Archives (2013) explained that disaster preparedness planning ensures that if a disaster occurs, it can be dealt with in a way that minimizes destruction or loss.

The State of Victoria (2014) suggested that a plan for disaster preparedness, management and recovery should include the following information:

1. Names or position titles of those responsible for carrying out particular actions in the event of a disaster.

2. The agency's vital records (this may be in the form of a vital records register, with information about the location and value of the records, and priority for salvage and recovery in the event of a disaster).

3. The contact details of people required to respond to the disaster.

4. Insurance details regarding cost of recovery.

5. Names and contact details of companies that can be called to assist with management of and recovery from a disaster, including commercial disaster recovery companies and support organizations or groups that can provide assistance in a disaster event.

6. What records were stored where, so that the extent of what has been lost can be quickly determined?

7. Location and details of disaster bins containing equipment and tools for use following a disaster.

According to Abdulwahab et al. (2012), disaster preparedness plan should include important aspects such as the personnel including staff, collections and records involving all types either paper or electronic records. They argue that it is of great importance to protect vital records of the institution (vital records: records that an organization cannot do without). National Emergency Management Agency (2013) posits that the disaster preparedness plans should involve: institutional capacity, coordination, disaster risk assessment, disaster risk reduction, disaster prevention, preparedness and mitigation, disaster response, disaster recovery, facilitators and enabler for it to be effective and efficient. MYSC and BNARS must have a disaster preparedness plan document which is known and accessible to all personnel who use and handle records in order to avoid a situation where employees do not know what to do in case of disaster emergencies.

2.6 Vital Records Management

According to University of Washington (2009), a vital record is recorded information regardless of format (paper, photo, database and magnetic tape) that must be protected in the event of emergency or a disaster. The State Records Authority of New South Wales (2002) also described vital records as records in any format which contain information essential to the survival of an organisation. The loss, damage, destruction and unavailability of vital records are a disaster on their own as it affects critical operations of an organisation. Vital records are required to support an organization's roles and responsibilities during and following an event that significantly disrupts normal operations, such as a national security emergency or natural disaster (United States Department of Energy, 2011).Therefore, it is important for MYSC and BNARS to identify vital records to ensure that the records remain secure, accessible and easily locatable, even during a disaster. The vital records form a vital part of disaster recovery and business continuity planning.

The State Records Authority of New South Wales (2002) proposed various strategies for identifying vital records of an organisation. These strategies are outlined in order below:

- Assessing business continuity and resumption planning strategies, as some records will have been identified as essential in restoring critical functions.
- Assessing risk assessments, as some records will have been identified as essential or critical.
- Assessing organizational charts and related documentation to identify functions that are vital to the organization.
- Assessing functions and records as part of the process of preparing retention and disposal authorities or coordinating retention-oriented management actions for records in any format.
- Reviewing organizational documentation.

Furthermore, it is worthwhile to identify and protect vital records to ensure their availability and sustainability. The State Records Authority of New South Wales (2002) identified preventive measures for protecting vital records such as (1) duplication and dispersal, (2) ensuring high levels of fire and security protection in storage containers and spaces, i.e. on-site and off-site storage and (3) establishing procedures for managing critical work in progress which may not be backed up or is located outside of storage facilities. The United Nations Archives and Records Management Section (2016) emphasized that it is essential to always secure paper vital records in a fire-proof or bomb-proof safe, lockable storage cupboard, or lockable desk drawer. It is further stated that in order to protect vital records, establishing and maintaining formal procedures for updating vital records regularly such as contact or personnel lists so as to ensure that the vital records in storage are the most current versions. In addition, the United Nations Archives and Records Management Section (2016) mentioned that back-up systems as a way of preventing vital records in digital form from destruction in the event of a computer system failure. Moreover, maintaining all records systems as efficiently as possible can help in easily accessible of vital records in an event of disaster.

2.7 Protection of Electronic Records

Records management is a key aspect component of disaster management. The Ohio State University (2014) identified seven (7) elements for effective records management and these are: records inventory and classification or retention scheduling, records storage and conversion, vital records program, disaster prevention and recovery program and disposition. These processes are carried out in the entire records life cycle (creation, use, maintenance, preserve or disposal) and ensure the proper management of records. Both electronic and paper

records have to be managed efficiently and effectively in order to enhance their accessibility. According to National Archives and Records Administration North East Region (2004), vital records identification and guidance, inventories of paper and electronic records, records transfers to off-site storage, files reconstruction guidance, and other records management needs are very critical when dealing with disasters.

The University System of Georgia Records Management Policy (2009) asserted that electronic data are records maintained in an electronic format and are stored on network servers while paper records also use the electronic data storage. The prevention of the loss of electronic data depends on routine back-up server files and the back-up tapes should be stored in a fire and water-proof cabinet. Paper format records should be stored in a fire-proof vault when not being used. Hlabangaan (2006) opines that information storage areas need to be protected at all times and should not be accessed by anyone other than authorized staff. He maintains that if only information materials are kept on information or records storages, access to them could be easily controlled and monitored.

Protection of paper based records from alteration and prematurely destruction is possible as compared to the electronic records. The National Electronic Commerce Coordinating Council (2004) mentioned that lockable cabinets, use of records vaults, transfer of records to the custody of records centres or private entities made the protection of paper records possible. The records centre engages or use appropriate storage facilities where the environments have controlled temperatures and humidity, care and handling of records and controlled access being practised to minimise the impact of records. However, with electronic records it is difficult to keep control of their alteration and damage. According to the National Electronic Commerce Coordinating Council (2004), it is difficult to protect electronic records due to the technologies they reside in. The council stated that authentication technologies are used to verify the identity in which the users claim to be. In addition, the National Electronic Commerce Coordinating Council (2004), argued that lack of e-signatory, controlled measures for creation of electronic records make it difficult to create a reliable, authentic and complete records. Therefore, electronic records are prone to alteration, change and corrupt practices. Unless proper measures are taken to protect e-records they will remain not usable in court cases as evidence.

The Deputy Governor's Office (2005) suggested two approaches to protecting vital records. These are duplication and dispersal which can be done thus making back-up and security copies when records are created or scheduling periodic reproduction of records. The duplicated

records should be stored in an offsite facility. The two other methods are onsite and remote storage and vaulting.

The Botswana government is one of the countries that has taken a stance to introduce electronic records in order to take advantage of the Information Communication Technologies due to changes in the global village. Both the Ministry of Youth, Sports and Culture and the Botswana National Archives and Records Services must be skilled in all areas in respect to dealing with electronic records. These organisations must take all the necessary steps in transforming paper records to electronic records, thus, starting with selecting records which are vital (important and sensitive) which needs to be converted to electronic form. Having the knowledge and skills would help Botswana to know which resources are needed for the generation and storage of these electronic records.

2.8 Measures for Effective Response to Disasters

These are efforts made for responding to disaster strikes. The comprehensive measures for effective response on disasters can be drawn from the disaster management cycle. The measures are activities geared for minimizing the hazards created by a disaster. Warfield (2016) outlines the response measures on disasters as: assistance in any term to return to the original state. These activities range from providing specific but limited aid, such as assisting with transport, temporary shelter and food, to establishing semi-permanent settlement in camps and other locations, and may include initial repairs to damaged infrastructure. The focus in the response phase is on meeting the basic needs of the people until more permanent and sustainable solutions can be found.

A comprehensive disaster management approach involves proactive activities in relation to reaction processes to response during disasters. Kirton (2013) recommended a five phase approach to disasters. These are mitigation, prevention, preparedness, response and recovery. These approaches are defined as follows: mitigation (minimizing the effects of disaster), prevention and preparedness (planning how to respond), response (Efforts to minimize the hazards created by a disaster) and recovery (Returning the community to normal). In order to strengthen the prevention of disasters impact in an organization, it is important to implement or undertake the following key activities:

- Training for disaster management personnel and development of model training courses and learning aids;

- Institutional strengthening of disaster management organizations;

- Development of model disaster legislation, policies and guidelines;

- Contingency planning;

- Resource mobilization;

- Improving emergency telecommunications and warning systems, development of disaster information and communication systems;

- Education and public awareness.

The National Emergency Management Agency (2013) concurs that developing working and tested comprehensive disaster preparedness plans is vital. The DPP main focus is on the safety of peoples' lives and property hence lessens the disaster impact.

2.9 Summary

This chapter reviewed various literatures on the disaster management cycle theory and how its application in this study, disasters affecting records, legislative framework on disaster preparedness generally and on disaster preparedness for records, vital records management, protection of electronic and paper based records and comprehensive measures for dealing with disasters. The general observation was that most authors' lamented that Botswana lacks a legislation of disaster preparedness. Though the country does not have a legitimate disaster preparedness plan some efforts have been done to deal with disaster management that is formation of disaster management committee and the availability of the National Disaster Management Office to deal with disaster management. Fire, floods, earthquakes, cyclones, strong winds, structural or building failures, chemical spill, viruses and computer failure and storage conditions were indicated to be the disasters that are likely to affect records.

The chapter has also shown that there are challenges that impact upon the management of records such as: technological obsolete, shortage of records storage, lack of sensitisation of staff on disaster preparedness plans, staff turnover, lack of budget and lack of management support. The literature review has also shown that there are few studies that have been conducted in Botswana on disaster management and records.

The following chapter discusses research methodology of this research study.

Chapter 3: Research Methodology

3.1 Introduction

This chapter discusses the methodology that was used in collecting data for the study on disaster preparedness, management and recovery of records at the Ministry of Youth, Sports and Culture. The chapter discusses the research design, population of the study, sampling procedures, data collection instruments, validation of data collection instruments, data analysis techniques and the ethical consideration. A research design is important as it explains the research design for the problem chosen. It helps the researcher to get solutions to a problem as well as explain the importance of the study, types of data collected, methods used for data collection and the techniques used for data analysis.

3.2 Research Design

There are various kinds of research strategies that can be used to solve a research problem. It is therefore important for the researcher to choose the research design that is suitable for solving the problem. Van Wyk (2006) described research design as an overall plan for connecting the conceptual research problems to the relevant and achievable empirical research. According to Neuman (2007), there are three types of research designs which are quantitative, qualitative and mixed study. Neuman (2007) defined quantitative research as the systematic empirical investigation of social phenomena via statistical, mathematical, or computational techniques whilst qualitative research is a method of inquiry employed in many different academic disciplines, traditionally in the social sciences, but also in market research and other contexts.

Qualitative research is concerned with the social aspects of the world and seeks to answer questions which begin with how? Why? and in what way? (Degu and Yigzaw, 2006). Qualitative research is also described as a type of scientific research which consists of investigation that seeks answers to a question, systematically uses a predefined set of procedures to answer the question, collects evidence, and produces findings that were not determined in advance (Family Health International, 2000). Furthermore, it seeks to understand a given research problem or topic from the perspectives of the local population it involves. Qualitative research is much more subjective than quantitative research and uses different methods of collecting data such as focus group interviews, in-depth interviews and participant observation (Marshall and Rossman, 2006). Neuman (2007) defined a mixed study as that research that combines both qualitative and quantitative research methods in a single study, and it is also known as triangulation. Neuman (2007) argued that a mixed study enhances the

quality of the research as combining more than one method produces a detailed quality study as the methods complements each other, where one method goes beyond the limitation of another method in a study.

In this study, the researcher used a quantitative research design. Though the study is a qualitative research, four (4) types of research methods in collecting data were used for triangulation. These include: the key informant interview, the survey method, direct observation and the document review method. The survey method refers to any activity that collects information in an organised and methodical manner about characteristics of interest from some or all units of a population using well-defined concepts, methods and procedures, and compiles such information into a useful summary form (Fellegi, 2010). The strengths of this approach was outlined by Family Health International (2000) when they pointed out that this type of research has the ability to provide complex textual descriptions of how people experience a given research issue and also provides information about the peoples' contradictory behaviours, opinions, emotions and relationships of individuals. The purpose of exploratory research is to discover ideas and insights hence this study aimed at developing a disaster preparedness framework for records management at MYSC-DCS and BNARS.

3.3 Population and Sampling

Population is defined by Yin (2003) as the universe or collection of all elements, businesses being described or measured by a sample. The population for this study consisted of employees of the MYSC-DCS based at the headquarters in Gaborone and BNARS staff. Respondents for the study included the Deputy Permanent Secretary, Senior Manager, Deputy Manager (Administration), Manager (Human Resource and Administration), Manager (Finance and Accounts) and other head of units in the Ministry of Youth Sports and Culture and some employees from BNARS because they work with records as well as deal with records disasters and the availability of records is important to their work. A sample of 30 (thirty) employees in which 20 (twenty) were from MYSC-DCS and 10 (ten) from BNARS were selected as the respondents from a total population of ninety eight (98).

According to Palys (2008), sampling frame is a list or other device used to define a researcher's population of interest. The sampling frame defines a set of elements from which a researcher can select a sample of the target population (Palys, 2008). The total number of the population (98) staff was used as a sample frame where a total number of thirty (30) were chosen to participate in the study. Twenty (20) people were chosen from DCS and 10 (ten) from BNARS.

The sample was obtained from a list of staff from the Human Resources Unit which list people's names and their designation. The information was taken from the oracle database of MYSC. This included the following Ministry's Units: Human Resources, Administration, Ministerial Strategy Office of Reforms, Finance and Accounts, Public Relations, Supplies, Records Management, Information Technology, Audit and Secretarial Services and other units.

Purposive sampling was used in this study. Purposive sampling is virtually synonymous with qualitative research because there are many objectives the qualitative researcher might have (Palys, 2008). Purposive sampling is based on selecting data elements that have the potential to give the greatest insight into the research questions. In this method of sampling the researcher purposively selects the respondents because he or she believes that those people have something to offer in relation to the topic of interest. The purpose of using purposive sampling was to illustrate characteristics of particular sub-groups of interest or to facilitate comparisons. This study selected respondents in line with their interactions with records and experiences on the subject studied in the two organizations. Employees from various units of the departments such as Internal Audit, Procurement, Administration, Human Resources, Secretarial, Finance and Accounting, Information Technology and the Archives Records Management Unit Staffs' thus the people who deal with records in conducting their daily duty operations. Each unit or section from the Department of Corporate Services (MYSC) selected was represented by individuals' depending on their designation and experience in records management have an impact on this work. The sampled population is as shown in Table 3.1.

Table 3.1 showing the population from the Department of Corporate Of Services- MYSC and BNARS

Ministry of Youth, Sport and Culture-Department of Corporate Services	No: of staff	No: of respondents selected
Department	**Total no:**	**Actual no: included in the study**
Deputy Permanent Secretary (Corporate Services)	1	1
Internal Audit	3	2
Procurement	9	2
Administration	8	1
Human Resources	9	1
Secretarial	7	1
Finance and Accounting	8	2
Records Management	7	6
Strategy Management	3	1
Public Relations	4	2
Information Technology	1	1
Total No: of Respondents from MYSC		**20**
Botswana National Archives and Records Services (BNARS)		
Director	1	1
Deputy director	1	0
Archivists, Conservator, Records Personnel	32	7
Secretarial	2	1
Information Technology	2	1
Total No: of Respondents from BNARS		**10**
Total No: of Respondents		**30**
Total Number of Population		**98**

Source: field data, 2015

The Director and staff of BNARS were included in this study due to the fact that their department is the overseer of records management in the public sector. Seven (7) Archives and Records personnel were chosen as part of this study as they are the custodians of records in the

department and are involved in any developments established in the improvement of records management. The respondents from MYSC-DCS were: two (2) officers from the internal audit, two (2) procurement officers, one (1) administration staff, one (1) human resource staff , one (1) secretarial, two (2) finance and accounting, six (6) records management personnel and one (1) IT officer. The selection of respondents for Botswana National Archives and Records Services were seven (7) from Archives and Records Management personnel, two (2) from both Secretarial and Information Technology personnel.

3.4 Research Methods

Research methods are those techniques that are used for conduction of the research (Degu and Yigzaw, 2006). In addition, these refer to the methods the researcher uses in carrying out the research operations. This study used document review, key informant interviews, a survey and direct observation methods to collect data. This study adopted Kilasi's methods he used when conducting a similar study in 2010 in Tanzania. Kilasi used similar data collection instruments when conducting a similar study in Tanzania, which proved to be efficient hence the adoption of similar methods and techniques used by Kilasi. The research methods used complemented each other as one data collection method goes beyond the limitation of another method. The section below describes how the data collection tools were used in this study.

3.4.1 Document Review

The study used document analysis as another method of collecting data. Document review is when reading through the sources such as journals, books, newspapers and minutes of meeting to gather information related to study topic. Annum (2016) described document review as studying or literature search of the topic of study. Therefore, this study used sources such as records management manuals, draft disaster management policy and guidelines to collect data on the legislative framework of disaster management in Botswana.

3.4.2 Key Informant Interviews

Key informant interviews are qualitative in-depth interviews with the people who know what is going on in the community. In this case, the community of the researcher is the MYSC-DCS and BNARS. The UCLA Centre for Health Policy Research (2013) mentioned two common techniques used to conduct key informant interviews. These are telephone interviews and face to face interviews. An interview guide is a prepared list of question which the researcher prepare beforehand and relies on during the interview. This would enable the researcher not to

forget some questions, and also enables the researcher to have probing questions (Neuman, 2007). This study conducted face to face interviews with records management personnel (Records Manager, Records Officers) and Action Officers at MYSC-DCS and BNARS. The reasons for choosing face-to-face interview are that they are advantageous of providing data quality and complexity (Doyle, 2009). This is so because the respondents were able to give fair responses and were able to express their own ideas and opinions on the topic of study rather than in the absence of the researcher.

According to Education Development Centre (2004), key informant interview like any other data collection method has its pros and cons. The key informant interview gives the researcher the opportunity to establish rapport or trust and get an insiders' view. The researcher has to create a conducive environment for the respondent to feel free to answer questions at ease. In this study, *see appendix 3-4;* semi structured interviews were used to collect data. The researcher created a relationship with the respondents informing them that the research was conducted for the attainment of the study program and that the results found would be useful in improving the situation of management of records in the Ministry and its departments and government institutions as a whole. This was done so that the respondents would feel free to answer questions knowing that the answers they were providing would not be used for any means of sabotaging their image. The other advantage of key informant interviews is that it can provide in-depth information about the causes of the problem and as well allows clarity of ideas and information on continual basis.

Moreover, key informant interviews were used in this study as they allowed further probing. Lastly, key informant interviews allow one to obtain information from many different people thus allows the researcher to gather information from different people with various professions. The key informant interviews were used to collect data from MYSC-DCS and BNARS. The disadvantages of the key informant interviews are that other employees in the organization who are not being used as key informant may become jealous and resent being left out; the relationship of the researcher and that of the respondent may influence the information one gets; informants may give the researcher their own impressions and biases and it takes time to select good informants and build trust. The key informant interviews sought to collect data on: determining the inclusion of disaster management in the strategy plans, identify disasters and monitoring at an early stage, assess the level of awareness and preparedness for disasters, identify measures put in place to reduce the impact of disasters before, during and after disasters, propose comprehensive measures for effective response on disasters at BNARS. (*See*

appendix 3 and 4). The researcher made appointments with the selected respondents through telephonic conversations and by visiting their work premises. The researcher went to MYSC-DCS and BNARS physically to conduct the interviews. The researcher also communicated with the respondents on the period the research is allocated so that they should avail themselves. The interview sessions were allocated one hour time. The researcher took notes during the interviews. The interviews were conducted during the spare time confirmed by the interviewee. The researcher asked questions one by one (individually). In the case where the researcher did not understand the interviewee she requested for clarity or for the respondent to repeat what she or he was saying. There were no tape recordings since some respondents were uncomfortable with recording the interviews arguing that the researcher may use the recordings against them.

3.4.3 The Survey

In addition to the key informant interview, this study used the survey method in collecting data. A questionnaire was used to obtain information from respondents. A questionnaire is a tool used for collecting and recording information about a particular issue of interest (Corporate Research and Consultation Team, 2012). The questionnaire was based on Kilasi's questionnaire. According to the Corporate Research and Consultation Team (2012), questionnaires are commonly used for collecting factual information in order to classify people and their circumstances; to gather straightforward information relating to people's behaviour; to look at the basic attitudes or opinions of a group of people relating to a particular issue and to collect baseline information which can then be tracked over time to examine changes. According to the Corporate Research and Consultation Team (2012), questionnaires have their own advantages and disadvantages. The advantages of the researcher using the questionnaire is that he or she can contact a large number of people at relatively low cost (postal and telephone). Questionnaires allow the respondent to complete the questions at their spare time and arrangement for collecting the answered questions can be made through telephoning. The advantages of the open-ended questions include the possibility of discovering the responses that individuals give spontaneously and thus avoiding the bias that may result from suggesting responses to individuals, a bias which may occur in the case of close-ended questions (Reja et al., 2003). Respondents have the advantage of reading and answering the questionnaires at their convenience time. According to Reja et al. (2003), questionnaire also ensures anonymity therefore avoid interview bias.

Though questionnaires have advantages, they also have their own disadvantages. The method is time consuming (Reja et al., 2003). It takes the respondents busy schedule to answer the question hence the researcher convinced and requested the respondent to answer the questionnaire during lunch hour. Respondents may lie and may also be biased because of the way the question is asked or because they do not want to expose the employer.

In this study, questionnaires adopted from a study by Kilasi (2010) were administered to employees of MYSC (IT Officer, Records Manager, Chief Archives and Records Manager) *(see appendix: 1 and 2)*. This research tool was used to collect data that addressed issues such as: to determine the inclusion of disaster management in the strategic plans, identify disasters and monitoring at an early stage, assess the level of awareness and preparedness for disasters, identify measures put in place to reduce the impact of disasters before, during and after disasters, propose comprehensive measures for effective response on disasters. The researcher made appointments with the selected respondents through telephonic conversations and by visiting their work premises.

The researcher distributed the questionnaires personally to the targeted population at the MYSC-DCS and BNARS. The respondents were given a week's time to complete the questionnaires before they were collected. The direct observation was used to collect data for this study. Permission to inspect records storage areas was sought verbally from the Records Management Units supervisors prior conducting the observation as the research permit was presented to BNARS. Therefore, an appointment was made for the observation in which the researcher was accorded access to the storage rooms to make an analysis through observing certain items in the checklist (**see appendix 5**).

3.4.4 Direct Observation

Marshall and Rossman (1989: p79) as cited in a study by Kawulich (2005) describes observation as a "systematic description of events, behaviours and artefacts in the social setting chosen for the study". Schmuck (1997) cited in Kawulich (2005) argued that observations provide researchers with ways to check for non-verbal expression of feelings, determine who interacts with whom, grasp how participants communicate with each other and check for how much time is spent on various activities. Observation method of data collecting can be done in various ways. Kawulich (2005) identified the types of observation as direct observation and participant observation, unstructured and structured observation. Data obtained through participant observation serves as a check against participants' subjective reporting of what they

believe and do. Participant observation is also useful for gaining an understanding of the physical, social, cultural, and economic contexts in which study participants live; the relationships among and between people, contexts, ideas, norms, and events; and people's behaviours and activities that is what they do, how frequently, and with whom (Kawulich, 2005).

According to Kawulich (2005), direct observation allows researchers to check definitions of terms that participants use in interviews, observe events that informants may be unable or unwilling to share when doing so would be impolitic, impolite, or insensitive, and observe situations informants have described in interviews, thereby making them aware of distortions or inaccuracies in description provided by those informants. This study used direct observation to corroborate or confirm certain aspects that the participants stated on interviews and questionnaires.

3.5 Validation and reliability of Data Collection Instruments

According to Diether (2016), validity is the criteria for how effective the design is in employing methods of measurement that will capture the data to address the research questions. Validity in qualitative research means appropriateness of the research tools, process and data. According to Golafshani (2003:63), opined that the use of triangulation "strengthens a study by combining methods". This study used triangulation that is quantitative and qualitative methods. Semi-structured questionnaires, interviews, direct observations and document analysis were used for collecting data in this study. The questionnaires and interviews used taken into consideration the main aspects of the subject studied such as understanding disasters likely to impact on records and protection of records. This means that the data methods satisfied the content validity. On the other hand, the researcher interviewed respondents in privacy and assured them that information provided will only be used for the purposes of this study. Therefore, this allowed respondents to provide accurate and relevant answers freely as they were reassured of the confidentiality. Golafshani (2003) confirmed that attention to privacy should be of value in certain studies when subjects hesitate to answer accurately if they fear they may be overheard by others in the environment. The researcher also made observations to confirm certain aspect stated by respondents on questionnaires and interviews hence the data collection methods yielded relevant information.

Hernon and Schwartz (2009) discovered that investigators might ask some individuals, ones not appearing in the actual study, to review the wording on questions and ensure that their

meanings are clearly understood. The researcher piloted the study by interviewing two (2) employees at the MYSC-DCS and three (3) at BNARS were given questionnaires who have not been selected into the sample. From MYSC-DCS an IT and Accounts Officer were interviewed while at BNARS, two (2) Administration Officers and one (1) Records Officer were used to test the data collection methods so as to check the wording and clarity on questions. This was done so that if something is not right, the researcher may change certain things on either the interview guide or questionnaire and the observation check list. In this study, the researcher routed the questionnaire, interview and the observation check list through the supervisor who approved the data collection methods before collecting data. These data collection methods were also used in a study by Kilasi (2010) hence reliable for collecting data as they covered important issues on records disasters, disaster preparedness and protection measures for records.

3.6 Data Analysis

Qualitative data collected through face to face interviews from key informants and direct observation was organised according to themes. The data from these methods was analysed through research objectives. The quantitative data collected through questionnaires was analysed through Statistical Package for Social Sciences (SPSS).The quantitative data collected through questionnaires and observations was entered into the SPSS software for analysis. The SPSS is electronically storing questionnaire data and the data is stored in a spreadsheet-like table similar to that of Microsoft Excel (University of Sheffield, 2005). The descriptive statistics was used for analysing data. Pie charts, bar graphs were used to illustrate data presentation.

3.7 Ethical Considerations

Bryan and Bell (2007) defined ethical consideration as the ethical principles that are used when tackling a particular issue. They also stated that ethical considerations are the most important parts of the research. Ethics are codes or rules which govern those practices of a profession. It dictates how information and client's relationships should be managed. Ethical considerations occur when one is required to use the rules to better serve their clients. For this study, the researcher adhered to the confidentiality for the information provided by respondents. The respondents were assured that the information obtained from them will only be used for the purposes of this study only and no third party will be allowed to use the data for any purpose

without written consent from the respondent. The respondents were not allowed to indicate their names hence anonymity was upheld.

The researcher also obtained informed consent of respondents thus informing them that they were not forced to take part in the research hence they were aware of their entitlement to refuse at any stage for whatever reason. Roberts (2003) asserted that gaining informed consent is a procedure for ensuring that research subjects understand what is being done to them, the limits to their participation and awareness of any potential risks they incur. The researcher obtained a research permit from the Ministry of Youth, Sports and Culture as the research was based at the ministry. *See appendix7, 8 and 9* which are about request for permission to study and request for consent.

3.8 Summary

This chapter discussed the research method imployed in this study for collecting data. This study indicated that the study utilized four methods (the document review, the key informant interview, the survey, and the direct observation methods) for data collection which complemented each other in order to cover up what could not be captured by another method. These methods provided the useful information for this study. The study used purposive sampling in acquiring the population of the study, which select data elements which have potential to give insight to research questions. The ethical considerations of the study observed in collecting data have also been explained. The next chapter presents the findings obtained through the data collection instruments described above.

Chapter 4: Presentation and Analysis of the Findings

4.1 Introduction

This chapter presents as well as discuss the findings of the study in relation to the research objectives and the literature review. The discussion is organised against the objectives of the study. The general objective of this study was to assess disaster preparedness, management and recovery of records at the Ministry of Youth, Sports and Culture in order to propose measures for effective response on disasters likely to affect records at MYSC. This chapter presents the findings from the survey questionnaire, key informants interviews, direct observation and document review. The chapter gives biographical information of the respondents, as well as the legislative framework on disaster preparedness in Botswana, and further discusses the risk potential of Botswana to disasters, the disaster preparedness levels, protection of public records, and the challenges faced by the public sector in preparing records management disaster plan and possible solutions.

4.2 Response Rate

As stated in Chapter Three, the target population for the study was ninety eight (98) employees of the Ministry of Sports and Culture in the departments of Corporate Services and the Botswana National Archives and Records Services. A sample of thirty (30) respondents inclusive of all departments was selected to participate. Out of the thirty (30) purposively selected respondents, only twenty-five (25) respondents participated in the study giving a response rate of 83%. From the twenty-five (25) respondents, 8 (32%) were from Botswana National Archives and Records Services while 17 (68%) were from the Department of Corporate Services- MYSC. The majority of the respondents were records personnel from both the departments which constitute 13 (52%) respondents of the total number from twenty-five (25) respondents who participated in this study. The five (5) respondents who did not participate in this study include one (1) respondent who misplaced the questionnaire and the other four (4) who were not able to participate in the study due to their busy schedules. According to Babbie and Mouton (2001), a 50% response rate in a study is adequate for analysis, while 60% is termed as good and 70% is considered as very good. Therefore, this study had collected data which was very good and adequate for the purposes of analysis.

4.2.1 Biographical Details of the Respondents

The biographical details of the respondents included the designation, department, unit, qualification and the period the respondent had been with the department. The designations of respondents were that thirteen participants 13 (52%) were archivists and records personnel, 2 (8%) were Information Technology (IT) personnel whilst 10 (40%) were employees from finance, internal audit, secretarial and other divisions respectively. This implies that majority of respondents were from the Archives and Records Management Units for both MYSC-DCS and BNARS.

Question No: 3 in *appendix 1 and 2* sought to find out the number of years respondents of the survey had worked in their respective departments. Fifteen respondents were interviewed through the survey method. Respondents were therefore asked to indicate the number of years that they had worked in their departments. The findings indicates that 11 (73%) of the respondents have work experience ranging between 0-9 years, 3 (20%) of the respondents have 10-19 years, whilst 1(7%) have 20-29 years of work experience. These findings are presented in Figure 4.1.

Figure 4.1:-Pie chart showing work experience of the respondents

Period of time the respondents have been with the department

- 0-9 years
- 10-19 years
- 20-29 years
- 30 and above
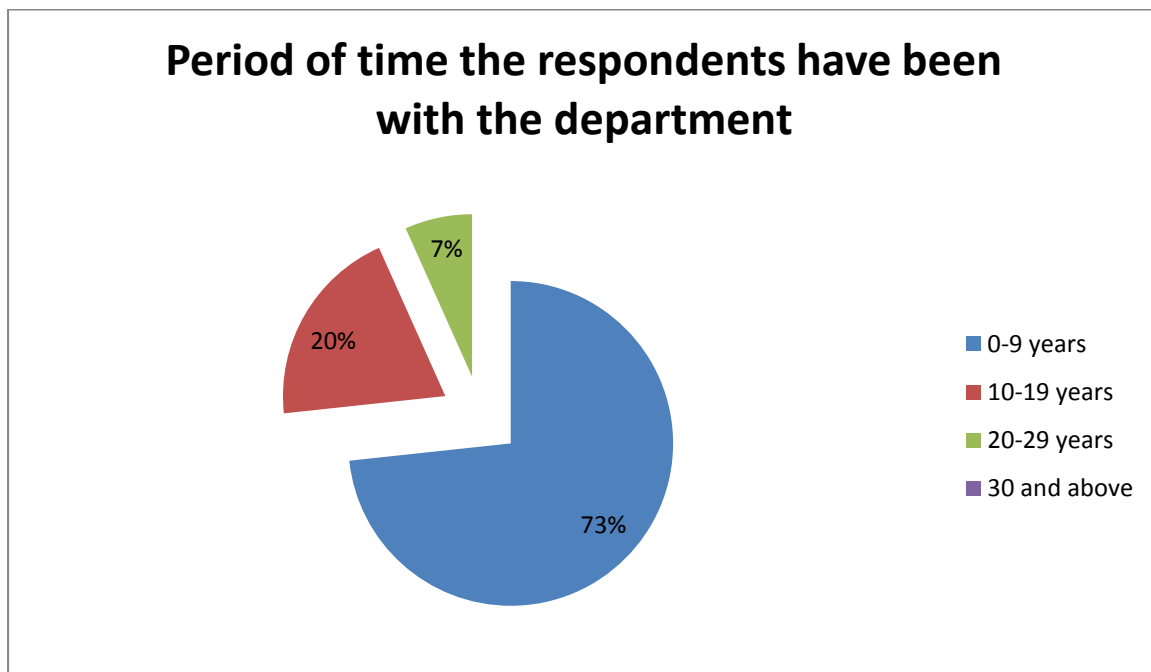
Source: Field data, 2015

As can be seen from Figure 4.1 11 (73%) of the respondents have work experience ranging between 0-9 years, 3 (20%) of the respondents have 10-19 years whilst 1(7%) of the respondents have 20-29 years of work experience. Furthermore, respondents were asked to state their level of education as shown in Figure 4.2.

4.2.2 Educational Levels of Respondents

Respondents were asked to indicate their levels of education.

Figure 4.2 provides a summary of the respondents' qualifications.

Figure 4.2: Qualifications of Respondents
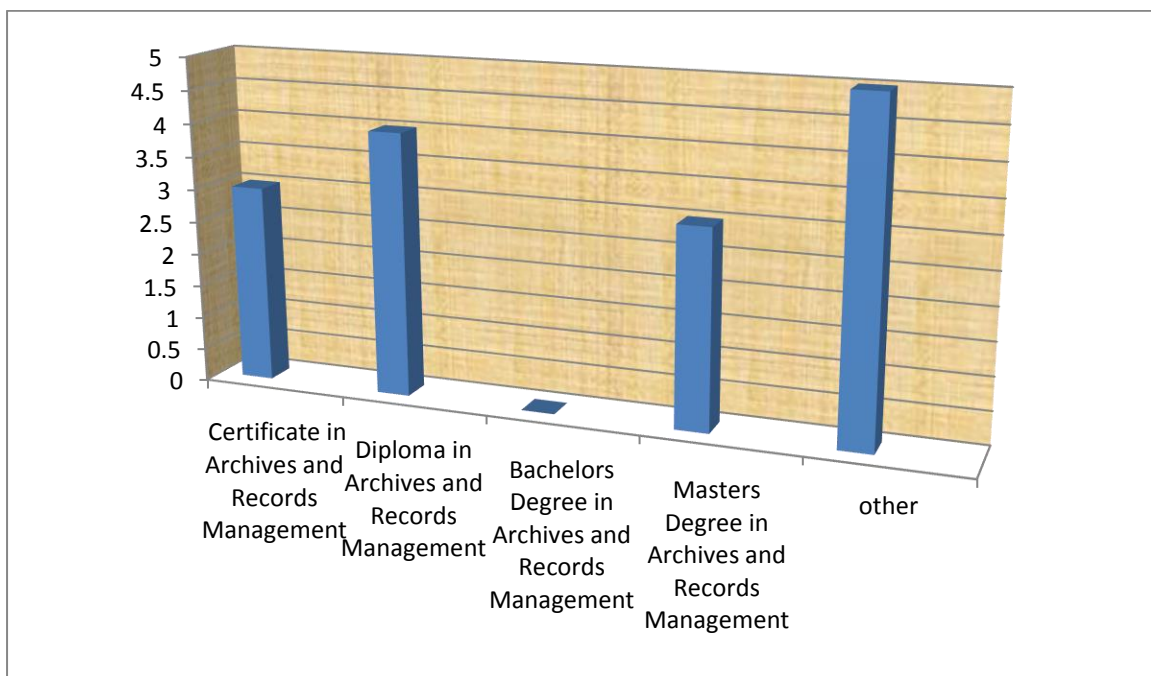
Source: Field data, 2015

Figure 4.2 illustrates that 3 (20%) of the respondents hold Certificate in Archives and Records Management, 4 (27%) hold Diploma in Archives and Records Management, none of the respondents hold Bachelor's Degree in Archives and Records Management and 3 (20%) of the respondents hold a Master's Degree in Archives and Records Management. The lack of a Degree in Archives and Records Management can be attributed to the fact that no University in Botswana currently offers a Bachelor's Degree programme in Archives and Records Management though a Master's Degree is offered in the country. Other respondents who possess qualifications other than those in Archives and Records Management are 5 (33%) respondents who have Bachelor's Degrees in Library and Information Studies and Diploma in

Information Technology (Software Engineering) as well as Bachelors of Humanities (History). This implies that the majority of the respondents hold a Diploma in Archives and Records Management.

4.3 Types of Records Kept

The study sought to determine the types of records held by MYSC-DCS and BNARS. Respondents were asked to point out the kinds of records their respective Records Management Units in their departments handle. The respondents' answers are as shown in the Figure 4.3. This study revealed that public records in Botswana are mostly in paper format. These findings are similar to that by Kalusopa and Ngulube (2012) who indicated that there is paper dominance on public records. In addition, Keakopa (2006) conquered that most of the government organisations keep both paper and electronic records, with paper records being in large quantity. Therefore, public records are paper based.

Figure 4.3: Type of Records Kept
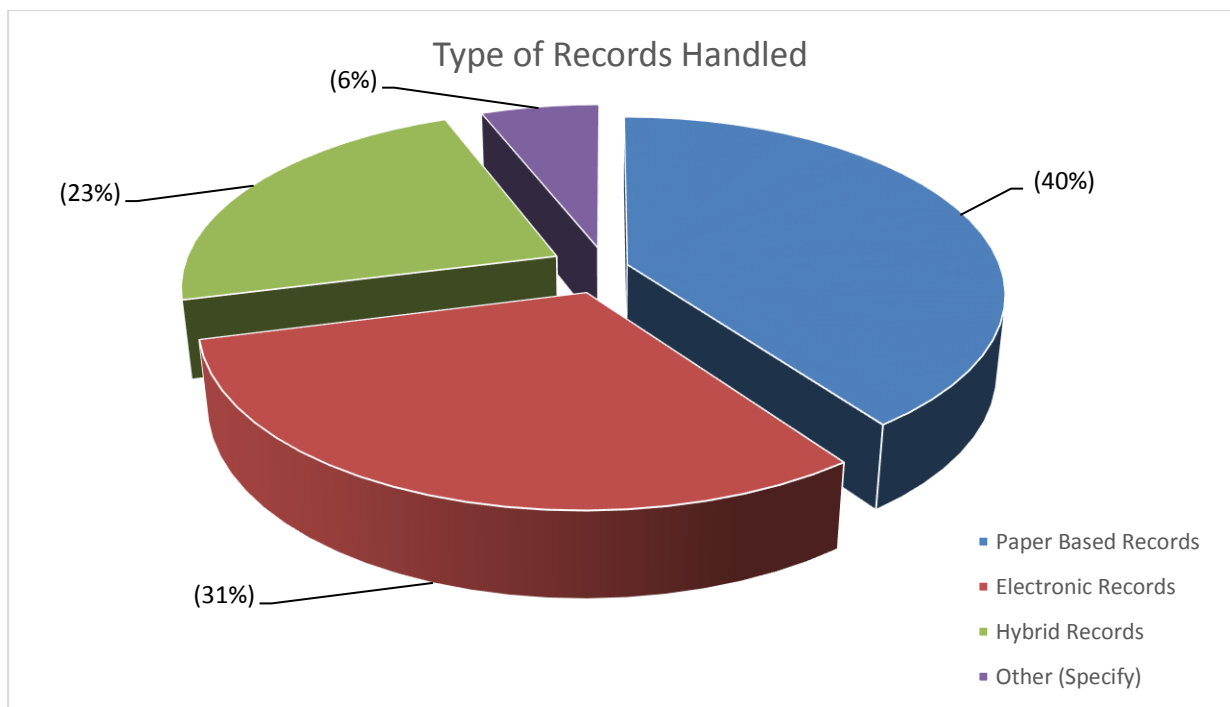
Source: Field data, 2015

As it can be seen from Figure 4.3, 5 (31%) of the respondents stated that public records are kept in electronic form, 3 (23%) asserted that they are kept in hybrid form, while 1 (6%) of respondents indicated that that records are kept in CD Rom cassettes and videos, and 6 (40%)

of them said they are kept in paper form. This implies that the majority of the respondents believed that public records in Botswana are mostly kept in paper form.

4.4 Legislative Framework on Disaster Preparedness in Botswana

This first research objective sought to establish the legislative framework in place to protect public records against disasters. It was found out that there is lack of legislative or laws on disaster preparedness on records in Botswana. However, it was revealed that though the country lacks disaster preparedness legislation on records, there are guidelines in place for managing records. The findings of the study revealed that Botswana has drafts plans on disaster management. These include; National Policy on Disaster Management (1996), National Disaster Risk Management Plan (2009) and National Disaster Risk Reduction Strategy 2013-2018 (NDMO, 2013). Though the country lacks disaster preparedness laws, little effort has been done to deal with disaster management. The Office of the President (1996) concur with the findings as it mentioned that a National Policy on Disaster Management was prepared in 1996 to deal with disaster management in the country. The policy was approved in a Cabinet Memo by the Office of the President.

Furthermore, NDMO (2013) argued that Botswana developed a National Disaster Risk Management Plan in 2009 in the effort of addressing disaster risks in the country. Therefore, this study has shown that though the country lack specific legislation on disaster management the public sector use records management procedures and manuals for protecting records from any other disasters. BNARS (2009) confirmed that there is a records procedures manual which provides guidelines on managing records throughout their entire life cycle (creation/ receiving, use and maintenance, preservation and disposal) in the public services. MYSC-DCS and BNARS adhere to this records management manual for managing archival and records materials.

Apart from the above stated policies and plans, Botswana uses existing institutional structures for disaster response and reduction. According to NDMO (2009:pp6-7), the following legislations are adopted for disaster management in the country:

a) *Constitution of Botswana*- provides an overall framework for the provision of safety and security from natural and man-made disasters

b) *Emergency Power Act (Cap 22.04)*- though the act does not contain guidelines specific to disaster emergency, it empowers the President to make emergency regulations

c) *Finance and Audit Act of 1996-* provides for the National Disaster relief Fund (NDRF). This is the fund from which assistance to disaster victims to meet life sustenance needs such as shelter, food and provision of sanitary facilities draws from.

Even though, Botswana lacks a specific legislation on disaster management, the government of Botswana has always played a key role in partnering with international government in different international agreement related to the disaster risk reduction strategies. NDMO (2009) and Botswana Red Cross Society, the International Federation of Red Cross and Red Crescent Societies (2013), confirmed that Botswana is a signatory to the Hyogo Framework For Action (HFA) 2005-2015 which is a plan to provide a clear road map for the implementation of disaster risk reduction.

The findings also indicated that while the country lacks a specific policy document on how to deal with disasters affecting records, BNARS has proposed a draft policy on disaster management. BNARS (2007:p. 44) identified the following as the basic components when drawing a records disaster preparedness plan:

- Listing vital records, their location and control documentation outlining how they should be protected.
- Listing equipment and materials available for use in disaster salvage and recovery.
- The function, composition and chain of command of the salvage and recovery team and their contact information.
- Procedures for identification and declaration of disaster situation and initiation of the disaster response.
- Provisions for the training and current awareness of the team.
- Listing sources of back up resources, including expertise, trades people, materials, equipment, vehicles and accommodation.
- Procedures for updating and testing plan.
- Simple technical information on the handling of damaged material, directed towards establishing priorities for early action.

The findings further showed that even though Botswana lacks disaster preparedness plan on records, the records management procedures and manual acts as a baseline for developing records disaster preparedness plan, it provides key guidance on establishing the plan. The reluctance and delay in developing the disaster preparedness for records by organisations in

Botswana can be attributed to the country's fortunes of being occasionally affected by disasters that have immensely destroyed valuable records as in other countries.

These results concur with Maripe and Sinkamba (2014) who argued that in an effort to curb the effects of disasters, the government of Botswana came up with policies and public sector specific legislative instruments that guide employees to deal with unforeseen circumstances. For example, in 1996 the Government of Botswana formulated a National Policy on Disaster Management. This paved way for the establishment of a National Disaster Management Office in 1998 to coordinate disaster management in the country. A policy is defined as a statement of intent guiding an organization on how to manage disasters effectively (NDMO, 2013). Therefore, this National Policy on Disaster Management seeks to guide Botswana on how to manage disasters effectively. This policy provides guidelines on prevention, mitigation, preparedness, response and recovery and development of disasters. The Policy also advocates for integration of disaster management into other developmental areas so as to protect all sectors of the economy from natural and man-made disasters. Pursuant to this National Policy on Disaster Management, the Government of Botswana took a step further and developed a National Disaster Risk Management Plan in 2009. This plan intended to develop, address, plan for disaster risk management in totality.

In terms of legislation, Botswana disseminated various guides or working documents that cover numerous sectors of the economy. The National Disaster Risk Plan 2009 and other guidelines designed by the National Disaster Management Office highlighted disasters are prone to Botswana and how to curb those disasters to reduce their impact (NDMO, 2013). Therefore, it is on organizations and government departments including the MYSC-DCS and BNARS to liaise with NDMO on how to manage disasters likely to affect records and design proper guidelines on records disaster management as compared to general disaster management. The overall responsibility for disaster management in Botswana rests with the Office of the President (OP). The OP facilitates integration of disaster management into sectoral policies and programmes. For example, the National Committee on Disaster Management (NCDM) is an inter-ministerial Committee of Deputy Permanent Secretaries from Ministries and representatives of Botswana Police Service (BPS), Botswana Defence Force (BDF), Botswana Red Cross Society, United Nations and Non-Governmental Organisations and acts as a national platform for disaster risk reduction. The committee is a policy formulation body responsible for developing a disaster management strategy for the country. The National Disaster

Management Technical Committee (NDMTC) is a multi-sectoral technical advisory body National Disaster Risk Reduction Strategy for period 2013-2018.

The respondents were asked to indicate whether their departments have disaster preparedness plans by choosing yes, no or I do not know as shown in Figure 4.4.

Figure 4.4: Existence of Disaster Preparedness Plans

Archives and Records Management policy or guidelines for managing public sector records

- Yes
- No
- I dont know

2%

12%

86%
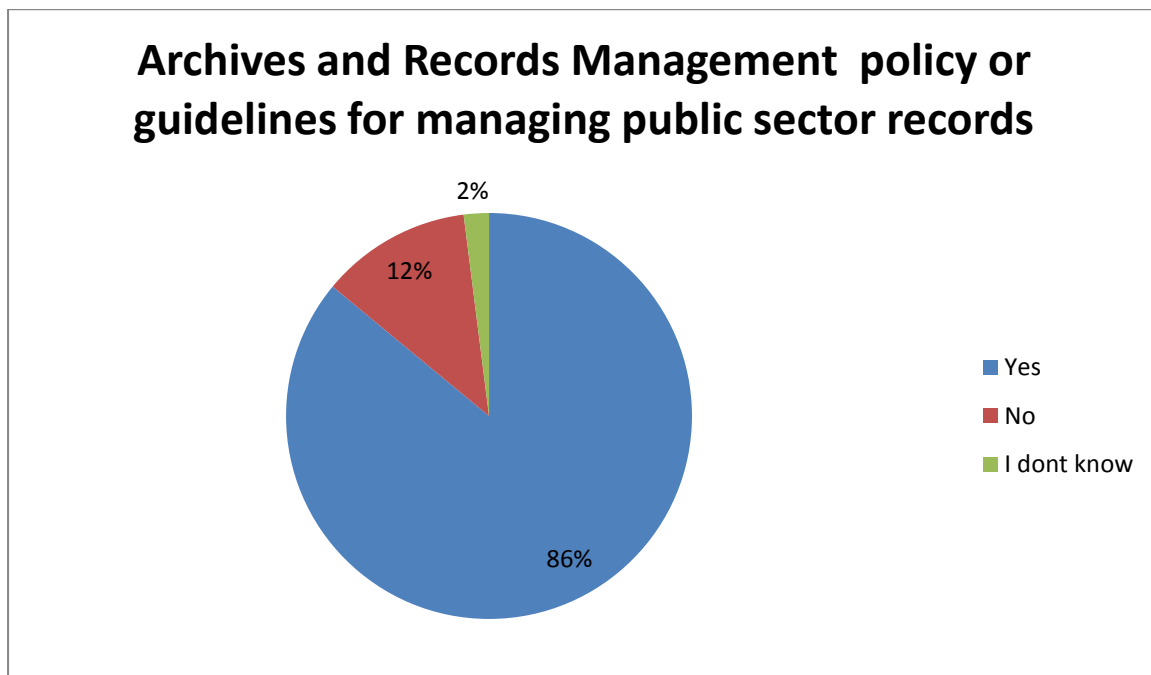
Source: Field data, 2015

Figure 4.4 shows that majority of respondents 13 (86%) revealed that there is an Archives and Records Management guidelines in the public sector, while 2 (14%) both indicated that there are no or do not know whether there are records management guidelines. The guide which is referred to as a records management manual and procedures was developed by the BNARS in 2007 to help in managing in the entire public services. Most of the respondents from the key informant interviews were not aware of the existence of any regulatory framework in place for disaster preparedness for prevention, response and recovery for public records in MYSC-DCS and BNARS. The results concur with NDMO (2013) in which it was stated that little action has been done to respond to other disasters that might occur and there has been little or no emphasis on other disasters mitigation within the National Development Plan and associated programmes. A few of the respondents from the key informant interviews argued that there is no framework but rather a draft preparedness plan which is at the final stage. One of the respondents from the key informant interviews alluded to the fact that the draft preparedness

plan is implementable. He said, *"BNARS has a disaster prevention, response and recovery manual for government records and effective measures in place to prevent major incidences"*.

4.5 Disaster Preparedness Plan

Respondents were asked whether their departments have developed a disaster preparedness plan and 9 (60%) of respondents argued that both MYSC-DCS and BNARS have developed a disaster preparedness plan, while 5 (33%) stated that their departments had not yet developed a disaster preparedness plan, and the other 1 (7%) did not know whether there is a disaster preparedness plan or not. Based on these findings, it can therefore be concluded that MYSC-DCS and BNARS have developed a draft disaster preparedness plan. Majority of respondents 9 (60%) stated that the disaster preparedness plan is still at initial preparatory stage as the plan has not been finalized and implemented. The findings revealed that MYSC-DCS and BNARS rely on the guidelines for managing records which are currently used. Efforts to obtain a copy of the draft disaster preparedness plan were not fruitful as the document is confidential and it is not yet ready to be accessed.

Respondents from the key informant interviews believed that BNARS, as the superior body in records management must have a regulatory framework for disaster preparedness as well a National Disaster Preparedness Plan for records management. Respondents from the key interviews argued that these instruments must not just be there, but must be effective as well. Some of the respondents argued that for these instruments to be effective, records users and keepers must also be taught about these instruments for safe records keeping. One of the respondents believed that the fact that no major incidences of records disasters is an indication that the government has managed to prevent records disasters. This is in contrast to what other respondents said, as most of the respondents, especially records (keepers) managers were not aware of the existence of such instruments. This could be attributed to the fact that Botswana is not prone to disasters such as fire-outbreaks, floods, earthquakes and cyclones such as is the case in other countries. It is important for MYSC-DCS and BNARS to conclude or accelerate the establishment of the disaster preparedness plan for the public sector. As the superior body in the management of all records in Botswana, other institutions rely on BNARS as the guiding entity in the field of records.

4.6 Disasters Affecting Records

The second objective of the study sought to identify disasters likely to affect records and monitoring. In assessing whether respondents understood the disasters the majority of them

defined disasters as unexpected human acts or natural occurrences with great impact to peoples' livelihood. Respondents identified types of disasters such as fire, floods, industrial accidents, chemical spillages, structural failures, computer failures, earthquake, terrorism, espionage, strikes and poor storage among others which have the ability to destroy public records. Respondents were given a list of potential disasters that are likely to affect records in Botswana and were asked to indicate the likelihood of occurrence in their departments. The results obtained are given in the Table 4.1.

Table 4.1: **Disaster Occurrences**

Item	Response	No. of Respondents	Percentages
• **Fire**	Not Sure	0	0%
	Never	7	47%
	Rare	8	53%
	Occasionally	0	0%
	Frequently	0	0%
	Always	0	0%
• **Floods (rain, river, ocean)**	Not Sure	0	0%
	Never	3	20%
	Rare	12	80%
	Occasionally	0	0%
	Frequently	0	0%
	Always	0	0%
• **Leaking pipes & drainage**	Not Sure	0	0%
	Never	0	0%
	Rare	0	0%
	Occasionally	15	100%
	Frequently	0	0%
	Always	0	0%
• Earthquake	Not Sure	0	0%
	Never	0	0%
	Rare	15	100%
	Occasionally	0	0%
	Frequently	0	0%
	Always	0	0%
• Country internal conflicts	Not Sure	0	0%
	Never	0	0%
	Rare	15	100%
	Occasionally	0	0%
	Frequently	0	0%
	Always	0	0%
• War or armed conflict	Not Sure	0	0%
	Never	14	93%
	Rare	1	7%
	Occasionally	0	0%
	Frequently	0	0%
	Always	0	0%

Item	Response	No. of Respondents	Percentages
• Bombs, industrial accidents and explosions	Not Sure	5	33%
	Never	1	7%
	Rare	9	60%
	Occasionally	0	0%
	Frequently	0	0%
	Always	0	0%
• **Strike or Labour unrest**	Not Sure	4	27%
	Never	0	0%
	Rare	4	27%
	Occasionally	7	46%
	Frequently	0	0%
	Always	0	0%
• **Vandalism or theft**	Not sure	1	7%
	Never	0	0%
	Rare	14	93%
	Occasionally	0	0%
	Frequently	0	0%
	Always	0	0%
• **Chemical spill**	Not sure	1	7%
	Never	12	80%
	Rare	2	13%
	Occasionally	0	0%
	Frequently	0	0%
	Always	0	0%
• **Electrical failure of the building**	Not sure	0	0%
	Never	0	0%
	Rare	0	0%
	Occasionally	15	100%
	Frequently	0	0%
	Always	0	0%
• Structural failure of the building	Not sure	1	7%
	Never	11	73%
	Rare	3	20%
	Occasionally	0	0%
	Frequently	0	0%
	Always	0	0%

Item	Response	No. Of Respondents	Percentages
Computer storage conditions (due to viruses, hacking, no access passwords, damage etc))	Not sure	3	20%
	Never	0	0%
	Rare	4	27%
	Occasionally	8	53%
	Frequently	0	0%
	always	0	0%
Poor storage conditions (such as temperature, humidity, cleanness)	Not sure	1	7%
	Never	1	7%
	Rare	11	73%
	Occasionally	2	13%
	Frequently	0	0%
	always	0	0%

Source: Field data, 2015

Table 4.1 shows the various disasters that are likely to occur as stated by the respondents. The sections below provide brief explanations on each type of disaster which affects records as indicated by Table 4.1.

4.6.1 Fire

Table 4.1 illustrates that 7 (47%) of the respondents indicated that Botswana has never experienced any fires, while 8 (53%) of them indicated that fire has rarely occurred at MYSC-DCS and BNARS. This means that the majority of respondents believed that fire has rarely occurred at MYSC-DCS and BNARS to threaten public records. The majority of respondents 14 (93%) indicated that there are adequate fire systems at both the MYSC-DCS and BNARS and that their employees have been trained on how to prevent, detect and fight fire. Observation of the building showed adequate fire extinguishers which contain information of the regular servicing. Respondents of the key informant interviews pointed out that though Botswana has

never experienced fire disasters on records, in some cases, electrical faults can cause fire to paper records as well as computer records. They concurred that fire is the most dangerous disaster to records as they can be burnt to ashes unlike floods, where some records can be rescued. The respondents of the key informant interviews argued that in essence, both electronic and paper records are affected by disasters equally hence the need for a disaster preparedness plan.

In this study, it was revealed that fire is one of the major disasters affecting records. MYSC-DCS and BNARS have never experienced fire outbreaks damaging records. This view concurs with Abdulwahab et al. (2012) who conceded that organisations may avert disasters by developing and putting in place preventatives and preparedness plans to protect organisations from threats that may be caused by fire. These efforts include the installation of fire systems, fire detectors and training staff on principles of fire-fighting and evacuation procedures in the event of fire. Furthermore, United Nations Archives and Records Management Section (n. d) confirmed that to be prepared in terms of emergency is very prominent in order to ensure that records storage areas are secure, are equipped with fire prevention and detection devices and fitted with locks and alarms.

4.6.2 Floods

Respondents were asked to indicate the frequency at which their departments are likely to be affected by floods. The study found out that (3) 20% of the respondents indicated that MYSC-DCS and BNARS have never been affected by floods, while 12 (80%) of them believed that Botswana rarely experiences any floods. This implies that the majority of the respondents mentioned that floods have rarely affected public records at both the two departments. The respondents further indicated that Botswana occasionally experiences floods during the rainy season from October to March and the mostly affected areas include the Chobe, Ramotswa and Tati Siding but have not affected any public records at all. Respondents from the key informant interviews conceded that MYSC-DCS and BNARS have not yet experienced records disasters. Though that's the case, respondents argued that in Botswana, incidences of floods do affect records such as the Gaborone Records Centre where records were soaked in water in 2013 and 2014 respectively. Some respondents cited that incidences have been reported where records were soaked by water from air conditioning and water leakages from roofing. Respondents said few archival boxes were soaked by water at Gaborone Records Centre due to water leakages from roofing.

The study established that floods have never affected MYSC-DCS and BNARS. However, Botswana experiences floods and in most cases infrastructures were damaged. For example: buildings and roads damage (NDMO, 2013). NDMO (2013) asserted that floods are one of the most disasters affecting Botswana leaving huge impact as destroying peoples' livelihoods, environment and public property. NDMO (2013) further confirms that the heavy rains in the past damaged the main road linking the north of the country with the south and it had to be closed for some time as heavy rains left trail destructions. The findings concurs with those by Stephens (2003:p122) who alluded that flooding has not threatened records in Botswana. However, this does not mean the country has to sit on its laurels on the misconception that floods are remote in Botswana, especially at a time where there is global cry on climate change that creates high possibilities of natural disasters that include excessive droughts and floods.

4.6.3 Leaking Pipes and Drainage

All the respondents from the survey 15 (100%) indicated that leaking water and drainage pipes have occasionally been reported at MYSC-DCS and BNARS, but have not yet affected the public records. This implies that the majority of the respondents stated that the leakage of water and drainage pipes remain a threat to MYSC-DCS and BNARS as they can easily cause flooding and destruction of public records. Pursuant to this threat, appropriate mechanisms have been put in place to constantly monitor, detect and fix any water leakages in and around the places where public records are kept. This effort aligns itself with disaster management practices, policies and programmes spearheaded by the National Committee on Disaster Management (NCDM). Upon observation of the buildings, it was evident that water had previously dripped from air conditions though they were repaired.

4.6.4 Earthquakes

The study found out that all the respondents from the survey indicated that earthquakes have rarely occurred in Botswana. This view concurs with other studies that held that Southern Africa rarely experiences earthquakes. Earthquakes are natural tremors arising from the bottom of the earth and have the ability to destroy structures (buildings) and provoke tsunamis (Abdulwahab et al., 2012). However, from the statistical occurrences of these earthquakes in Southern Africa, these studies illustrate that rare low magnitude earthquakes have affected the region in the past. However, this inference does not mean that Botswana is immune from earthquakes nor will it be affected by them in the future. The fact that earthquakes have rarely occurred in Botswana does not mean that MYSC-DCS and BNARS should seat at their comfort

zone as chances are that this disaster may occur in the future hence the need to plan for them in order to minimize loss of public records due to buildings collapsing.

4.6.5 Country and Internal Conflicts

Ahamefula (2014:p.13) viewed conflict as "some form of friction, disagreement, or discord arising within a country when the beliefs or actions of one or more members of the society are either resisted by or unacceptable to one or more members of the general society". The respondents were asked to indicate whether country and internal conflicts have affected Botswana. The findings of this study indicated that all the respondents indicated that the country rarely experience internal conflicts that threaten public records at the MYSC-DCS and BNARS. Conflict may also arise in the workplace between workers because of differences of opinion, disagreements between members, or scarcity of resources. At this point, workforce will no longer be united; thus threatening the public records from unlawful behaviours such as sabotage, malicious injury to property, deliberate destruction of records. This call for management in these institutions to be equipped with conflict resolution techniques that will seek to de-escalate the situation by finding a peaceful settlement.

4.6.6 War or Armed Conflicts

The study also further showed that 14 (93%) of the respondents stated that war or armed conflict has never happened in Botswana, while 1 (7%) of the respondents believed that armed conflict has rarely occurred in Botswana. Based on these findings, it can be seen that the majority of respondents affirmed that Botswana is a democratic and peaceful state that has never experienced internal wars or armed conflict. The Security Council of Botswana (2014) reaffirmed that Botswana appends great importance to protecting its citizens from armed conflicts. The country ensures its citizens are secured through promotion of and respect for humanitarian principles and in accordance with the international humanitarian laws and human rights (The Security Council of Botswana, 2014:p1).

The study revealed that Botswana has never experienced wars and conflicts. However, Hlabangaan (2006:p.68), argued that Botswana was negatively affected during 1970's to 1984 by the South African wars against apartheid, Namibian and the Zimbabwean wars of their independence against white settlers regimes. In that protracted structure, Batswana bore the brunt of losing innocent lives and property and further threatened national security. The possibility of losing public records during such wars is possible. Moreover, political upheavals

due to failed leadership from neighbouring countries such as Zimbabwe and Lesotho have been noticed; thereby threatening Botswana's national security from the influx of political and economic refugees and this has been worsened by cross-border crimes and other offences that endanger public records (Hlabangaan, 2006). This implies that MYSC-DCS and BNARS in Botswana have never experienced loss of public records due to wars and armed conflicts.

4.6.7 Bombs, Industrial Accidents and Explosions

The study has revealed that 9 (60%) of the respondents asserted that bombs, industrial accidents and explosions have rarely occurred in Botswana, 5 (33%) of the respondents mentioned that they were not sure of these disasters occurrence, whilst only 1 (7%) of the respondents stated that public records have never been lost due to bombs and explosions at both MYSC-DCS and BNARS. This implies that the majority of respondents confirmed that bombs, industrial accidents and explosions are uncommon in their departments as both of the departments are situated far away from industries and firms, where such materials are commonly used such as in mines and military institutions.

4.6.8 Strike and Labour Unrest

The study also revealed that 7 (46%) of the respondents indicated that strikes and labour unrest happens occasionally in the public sector, 4 (27%) respondents answered that they were not sure of any acts of these disasters, while 4 (27%) of the respondents said strikes are rare in Botswana as compared to South Africa. Even in circumstances that the protests occur in Botswana, they rarely become violent in leading to burning of public institutions that contain valuable records. Strikes and labour picketing are permissible at law, they become wrongful when they endanger public order and threaten the entire social fabric and essential services. This is confirmed by the public service strike in Botswana where the civil servants downed their tools and protested for salary increment for more than three months in 2011. The strike had a great impact in various sectors across the government institutions. The Office of the President (2011) also validated that the strike consequences were so immense in the fact that a number of health facilities across the country and schools were closed. The closure of schools and hospitals resulted from students causing chaos (vandalising school property) and patients were left unattended to. Most of the government institutions were operating with skeletal staff resulting in delay of services delivery hence impacted on creation of records as employees were not available to perform the day to day work to meet the organisational goals and objectives.

Based on the findings, it can be concluded that strikes and labour unrest are uncommon in Botswana.

This study discovered that Botswana has occasionally experienced strikes and labour unrest. Majority of respondents in this study have shown that strikes and labour unrest are a potential threat to public records. These findings concur with those by Cooper (2008) that strikes and labour unrest are a potential threat to public records; hence threaten the general social fabric of the nation.

4.6.9 Vandalism or Theft

The study found out that 14 (93%) of the respondents believed that vandalism and theft of public records rarely occurs at MYSC-DCS and BNARS, whilst 1 (7%) respondent was not sure of theft and vandalism of public records. This means that the majority of the respondents believed that vandalism and theft of public records rarely occurs at the MYSC-DCS and BNARS. They mentioned that the low levels of theft can be attributed to the security personnel at the entrances and exit points of the government buildings as well as the enactment of the parcel counter designed for customers to leave their belongings at the entrance of BNARS and this reduces the acts of theft and vandalism at both the two departments.

4.6.10 Chemical Spill

The study discovered that there are rare chances of chemical spillage at the MYSC-DCS and BNARS which threaten public records. Among the respondents 2 (13%) respondents indicated that chemical spillage is rare, while 12 (80%) respondents mentioned that this kind of disaster never occurred and 1 (7%) of the respondents were not sure of the occurrence of chemical spillage. The findings show that the majority of respondents indicated that chemical spillage has rarely occurred at MYSC-DCS and BNARS to destroy public records.

4.6.11 Electrical Power Failures

All respondents who were surveyed indicated that electrical power failures and outages due to load shedding occasionally threaten the creation, access and management of public records at MYSC-DCS and BNARS. Based on the findings, it can be concluded that Botswana experiences challenges in power supply leading to power failure or load shedding. In the past few years, Botswana has been experiencing load shedding where some parts of the country

experienced total blackout for several days. Most areas in the country experienced a power outage which did not last long due to drop in domestic power generation (Mguni, 2013).

Respondents have indicated that electrical power failures have occasionally been experienced at MYSC-DCS and BNARS which disrupted records management. These findings are similar to those by Bassham and Polk (2008), who believed that provision of electrical power, is important to all modern businesses; and any brief power outage can cause tremendous losses of productivity, materials, records and revenues. They further emphasized that the degree of impact caused by power failure to an individual company varies by industry and the nature of implications. It can range from being disruptive to life threatening. Abdulwahab at al. (2012) shared the same view with Bassham and Polk (2008) that power outages may bring production lines to an abrupt halt. Organisations such as MYSC-DCS and BNARS may be negatively affected by power outages resulting in crashed computer systems, lost data and abrupt termination of communications with clients and difficult in accessing computerised retrieval tools and records.

4.6.12 Structural Failure of the Building

The study revealed that 1 (7%) of the respondents were not sure of any structural building failure, 11 (73%) of the respondents stated that MYSC-DCS and BNARS have never experienced structural failure of the building whilst 3 (20%) of respondents believed that the disasters of structural building failure were rare in Botswana as compared to other countries.

4.6.13 Computer Failure

The study found out that majority of the respondents 8 (53%) believed that occasional computer failures caused by human threats through infection with viruses, hacking and other wrongful activities threaten the management of public records at both the two departments. The other 3 (20%) of the respondents said they were not sure of any computer failure. The remaining 4 (27%) of the respondents said the computer failures rarely affect MYSC-DCS and BNARS. For example, the most dangerous attackers are usually insiders or former employees, because they know many of the codes and security measures that are already in place. Key informant interview respondents also asserted that electronic records can also be affected by viruses which can cause severe damage as well as hacking which can affect the server and destroy valuable data. Floods can be man-made and natural. This may be because of too much rainfall,

roof leakages and water pipes leakages and air-conditioning problems resulting in soaking of records.

This study revealed that insiders are likely to have specific goals and objectives, and have legitimate access to the system. According to Bassham and Polk (2008), employees are the most familiar people with the organization's computers and applications, and they are most likely to know what actions might cause the most damage. Insiders can plant viruses, trojan horses, or worms and they can browse through the file system and also the use of infected memory sticks can cause damage to the system so as to cause premature destruction of records for various intentions. Trojan horses are a threat to both the integrity and confidentiality of information in the system. Insider attacks can affect availability by overloading the system's processing or storage capacity or by causing the system to crash thus losing records.

Furthermore, internal users, data entry clerks, system operators, and programmers frequently make unintentional errors that contribute to security problems, directly and indirectly. Sometimes the error is the threat, such as a data entry error or a programming error that crashes a system (Bassham and Polk, 2008). In other cases, errors create vulnerabilities and can occur in all phases of the system life cycle. The respondents indicated that the goal of these hackers are varied ranging from intention to disrupt services to stealing of information and hardware.

4.6.14 Poor Storage Conditions

Respondents were asked to indicate whether the storage conditions of their records storages poses threat to the management of records. The study showed that the majority of respondents surveyed, 12 (80%) of the respondents believed that poor storage conditions rarely threaten management of public records at MYSC-DCS and BNARS. The survey indicated that 14% of the respondents indicated that they were not sure whether poor storage conditions threaten the management of records, while 2 (13%) of the respondents believed that poor storage conditions never threaten management of records. One (7%) respondent affirmed that poor storage conditions occasionally threaten management of records.

This study has revealed that poor storage conditions threaten the management of records. The findings are similar to those by Bassham and Polk (2008) who viewed that poor storage conditions such as environmental conditions which include temperature and humidity, light, air quality, pest management, and magnetic fields. The variations of conditions within storage areas and facilities have a major impact on the preservation of physical records and the rate

with which they will deteriorate. For example, poor storage and environmental conditions result in the deterioration of records and their potential loss. To avert this potential damage and loss, the National Disaster Management Office (2013), recommends that records should be stored in environmental conditions that are appropriate to their format and retention period, as well as implementing an integrated pest management controls to ensure that records are not damaged by pest activity.

4.7 Disaster Preparedness for Records

The third research objective sought to assess the level of preparedness against disasters in protecting public records from possible damage and destruction at MYSC-DCS and BNARS. Respondents were therefore asked to demonstrate how disaster preparedness for records management were handled or addressed in their departments. According to Bassham and Polk (2008), preparedness focuses on preparing equipment and procedures for use when a disaster occurs. This equipment and these procedures can be used to reduce vulnerability to disaster, to mitigate the impacts of a disaster or to respond more efficiently in an emergency. The findings showed that the majority of the respondents 14 (93%) from the survey method viewed disaster preparedness as the main way of reducing the impact of disasters. Therefore, the respondents were asked to demonstrate how disaster preparedness for records management were handled or addressed in their departments. The results are indicated in Table 4.2.

Table 4.2: Disaster Preparedness

Response	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Total	%
Yes	10	0	12	15	13	15	15	15	15	13	123	82%
No	0	13	1	0	0	0	0	0	0	2	16	11%
Not Sure	5	2	2	0	2	0	0	0	0	0	11	7%
Total	15	15	15	15	15	15	15	15	15	15	150	100%

Source: Field data, 2015

As indicated by Table 4.2, 12 (82%) of the respondents indicated that these two departments have adopted appropriate measures in reducing the effects of disasters, 2 (11%) of the respondents argued that there are no appropriate measures, whilst 1 (7%) of the respondents was not sure of the existence of the measures in reducing the effects of disasters. This implies that the majority of the respondents indicated that MYSC-DCS and BNARS have adequate measures to prevent and mitigate the effects of disasters. These measures entail the ability to

predict and, where possible, prevent disasters, mitigate their impact on vulnerable records, and respond to and effectively cope with their consequences. This view concurs with Bassham and Polk (2008) who argued that disaster preparedness involves creating a platform through which organizations design effective, realistic and well-coordinated response efforts to reduce the effects of disasters. These activities are also designed to minimize loss of life and damage; for example by removing people and property from a threatened location and by facilitating timely and effective rescue, relief and rehabilitation.

The majority 15 (100%) respondents of the survey method suggested many measures that may be used to reduce the risk of flooding or water damage on public records. The measures are as follows.

1. Not to store records directly below or above heating, water and drainage pipes.
2. Not to use top shelves for storage and bottom shelves are 6'' (15cm) off the floor.
3. To use high-quality, strong storage boxes, shelves and containers for records storage.
4. To identify all locations where water might penetrate and inspect those locations regularly.
5. To regularly check humidity levels in storage areas; increases can be caused by water penetration.
6. To ensure regularly used water taps are always turned off when not in use, anywhere in the office.
7. To turn off central water pipes if the building will not be occupied for any length of time.
8. To regularly inspect and maintain gutters, drains and pipes.
9. To install flood alarm systems in the records storage areas.
10. If possible, store records in a location with a pitched, not flat, roof, so that water drains.

When respondents were asked about the employees' capacity in building awareness for disaster preparedness for public sector records at MYSC-DCS and BNARS, some argued that there is need for a conservator whose mandate is to equip all records stakeholders within the organisation with skills on how to deal with disasters. BNARS employed a trained conservator who conducts regular training on disaster preparedness but the services are only limited to BNARS. There is, therefore, a need to extend such trainings to other departments as they have valuable records under their custody. Some respondents argued that Records Management Units ought to conduct workshops for their personnel only at minimal level. They lamented this idea of excluding other departments since they also handle and deal with records in order to carry out their duties.

The study revealed that both MYSC-DCS and BNARS have adopted appropriate measures for reducing the effects of disasters. These findings are similar to that by Bassham and Polk (2008) who asserted that disaster preparedness creates a platform by which organisations design effective, realistic and well-coordinated response efforts to reduce disasters impact. Furthermore, Abdulwahab et al. (2012) suggested that disaster preparedness plan should have three phases that are preventive, preparedness and after phase so as to deal with minimisation of destruction or loss.

4.8 Protection of Vital Records

The objective sought to ascertain measures in which vital records can be protected. Respondents were asked to identify measures of protecting vital records. Twelve (80%) of the surveyed respondents indicated that MYSC-DCS and BNARS have not identified vital records, while 3 (20%) respondents were not sure whether MYSC-DCS and BNARS have identified vital records. The lack of identification of vital records by MYSC-DCS and BNARS can be attributed to the fact that both the departments have not developed a records disaster management plan. Even though, MYSC-DCS and BNARS lacks proper identification of vital records. Thirteen (93%) of the surveyed respondents proposed that duplication copies of vital records should be stored offsite facility, ensuring back-up systems and also developing a vital records management programme.

Respondents from the key informant interviews argued that MYSC-DCS and BNARS lack vital records management programme. They said that both the two departments guard against their vital records through the use functional file classification scheme which classifies records according to their value in the organisation. Records are stored on storage areas that are free from dust, clean and have controlled temperatures. Observations by the researcher also confirmed that BNARS has its offices and exit doors labelled, lockable cabinets and no cracked and broken doors. On the other hand, eating restrictions and no smoking signage in some areas are clearly placed at BNARS.

The United States Department of Energy (2011) stressed that vital records form a vital part of disaster recovery and business continuity planning. The study revealed that MYSC-DCS and BNARS have measures put in place for protecting the vital (core) business records. The respondents indicated that archival and records materials are stored in the purposively built storage rooms where temperature and humidity are controlled. The findings share the same sentiment as by that by the State Records Authority of New South Wales (2002) who opined

that duplication and dispersal, lockable storages and fire extinguishers are measures for protecting vital records.

In addition, The Department of General Services (n.d) emphasized that vital records can be protected at any stage of their life cycle from creation to destruction. The department proposed the following as protection measures for vital records.

- Dispersal- is a routine distribution of vital records to various locations for the use and reference should be standard procedure. Another way of protecting vital records by dispersal is through planned distribution of records created specifically for protection purposes whereby copies of vital records are usually sent to designated offices in other locations until the vital records retention requirements are met.
- Duplication- is the scheduled reproduction of records and information specifically for vital records protection. This method should be limited to those records considered vital so as to avoid wasting time and reducing cost. Archives and records management section (2010) confirmed the above statement, mentioning that only 2-4 % of organisations' records are likely to be vital.
- On-site storage-storing records in fire resistant containers, file cabinets lockable, safes, vaults and file rooms designated for the purposes of vital storage.
- Off-site storage- records containing vital information are better of stored and safeguarded at an off-site facility.

4.9 Protection of Electronic Records

The objective sought to identify measures for protecting electronic records. Protecting records from loss or damage is a fundamental part of good records management. Ngulube et al. (2013) believed that organizations must adhere to basic principles of record-keeping in order to protect both paper and electronic records. Respondents were therefore asked to state the measures for protecting electronic records. All respondents surveyed indicated that the protection measures that may be used to protect public records should take cognizance of all physical, environmental, and technological hazards that can place records and information at risk.

At the beginning of the twenty-first century, Botswana adopted the usage of Information and Communications Technology (ICT) in the provision of goods and services. This caused a desire to shift from paper usage to digital records; also called e-records. As a result, e-governance has created huge awareness of the move from paper based records to e-records.

Respondents were asked to indicate possible ways of protecting electronic records. Based on this, respondents were asked to provide measures in which electronic records can be protected. The results showed that 12 (80%) of the respondents indicated that electronic information deteriorates with age; and thus should be stored in specific formats and conditions that changes with time as technology becomes obsolete. This view is shared by Karen (2009) who opined that electronic records should be preserved in special formats that cannot be read without specific software and hardware. Respondents from the key informant interviews argued that BNARS has a disaster management team which is skilled. In addition, BNARS has the resources for disaster preparedness for public records. The organisation has fire suppression systems, smoke detectors and guidelines on storage facilities on how they can raise their storage.

The observation checklist revealed that BNARS has no risk assessment document or report on potential events identifying threats to records. It has also shown that BNARS has a disaster plan document for records but it is not yet implemented. When it comes to fire prevention to the building, the study indicated that BNARS has a compliance certificate regarding fire alarms, exit routes and emergency lighting. The emergency exit routes at BNARS are clearly labelled to reduce uncertainty during emergencies. The fire extinguishers and fire detectors, sprinklers and suppressions systems are in place and well maintained and timely serviced at BNARS to prevent or put out fire. Electrical cables and wires are not exposed on the floors at BNARS. The study also found out that the building housing BNARS has a pre-alarm connected to Gaborone City Council for emergency. In addition, fire drills are regularly conducted. During observation of the building, a fire drill was conducted in demonstration and the Gaborone Fire services arrived at the department (BNARS) within 5 minutes of time.

Furthermore, the study also showed that no water pipes pass through records storage areas and offices and no records were stored or placed on the floor and on basements. BNARS adheres to the standard of the level of cabinets storing records 6 inches above the ground to avoid water to soak records during floods. The study also revealed that BNARS lack anti-theft electronic system at the door or main entrance and CCTVs and back-up systems at BNARS.

Respondents have shown that protecting both electronic and paper records is important to reduce the risks of losing the records**.** The Archives and Records Management Services (2001) contends that when records are lost or damaged, the organization is exposed to several significant risks, such as the inability to meet operational goals and objectives (operational

risk); the failure to document or financial decisions or expenditures adequately (financial risk); the loss of status as a reliable, effective, and accountable agency (reputational or image risk) and the exposure of personnel and facilities to loss or damage (physical or security risk). For example, when records are lost or the information in them is compromised, MYSC-DCS and BNARS will struggle to fulfil their mandated responsibilities. Protecting electronic and paper records from loss or damage is essential to ensuring the departments carry out their work effectively and efficiently.

According to the United Nations Office for Disaster Risk Reduction (2005), the first step in protecting records is to try to prevent disasters from happening. In the context of Botswana, the respondents indicated that the most serious disasters are fire and flood, which can be caused by a range of events, such as electrical faults, overflowing rivers, failed sprinkler systems, leaking taps and air conditions. As result, MYSC-DCS and BNARS have to undertake numerous actions to reduce the risks of fire and floods. The respondents listed the following actions to be appropriate in reducing the risk of fire:

- Ensure the office complies with all fire regulations.
- Install fire alarms, smoke detectors, and heat detectors and ensure they are always working.
- Train personnel in emergency and evacuation procedures and conduct regular training exercises.
- Ask the fire department to identify weaknesses in fire protection and suggest improvements.
- Ban smoking or open flames anywhere records are kept.
- Store flammable liquids in locked metal cabinets or locations removed from people or records.
- Check electrical wiring, plugs, and cords regularly and replace any worn components.
- Ensure all storage containers for records are strong, stable, and non-flammable.
- Keep all records storage areas clean and tidy.
- Identify and label vital records clearly so they can be retrieved immediately in an emergency.

In addition, the study revealed that electronic records deteriorate with time. Karen (2009) expressed similar views arguing that electronic records should be preserved in special formats

that cannot be read without specific softwares and hardwares. Ngulube et al. (2013) recommended that organisations should adhere to basic principles of records-keeping in order to protect both paper and electronic records.

4.10 Factors inhibiting Establishment of Disaster Preparedness for Records

The last objective sought to identify challenges in establishing disaster preparedness for records. In order to address this objective, the study first identified the challenges hindering the preservation of records and development of disaster preparedness for records. The respondents were therefore asked what challenges are faced by MYSC-DCS and BNARS to preserve public records in the event of disasters in order to come up with possible solutions. Eleven (73%) of the respondents indicated that preservation of electronic records faced with degradation of the software or systems required to make digital information readable. Another difficult problem in preserving electronic records is exacerbated by inevitable obsolescence of the technology used to create them. For example, some digital photographs are created or saved in a popular computer format and need different software to open and view them. Therefore, technology changes with time that is, for that information to be accessible in future it will need system upgrading or migration from the old version of the source of information to the new version.

The other challenge of managing and preserving vast and rapidly growing volumes of electronic records produced by modern organizations is placing pressure on the archival community and on the information industry to develop a cost-effective long-term preservation strategy that would free electronic records from the straitjacket of proprietary file formats and software and hardware dependencies. Organisations create and receive vast of information in large volumes on daily basis. These are as a result of performing the core activities of organisations as records are evidence. The majority of respondents lamented that records storages are inadequate for keeping the semi-current and non-current records before being transferred to the records centres.

Respondents also decried lack of sensitisation of staff on disaster preparedness plans for salvaging records in cases of disasters. Respondents indicated that MYSC-DCS and BNARS employees' lack expertise on disaster management. On the other hand, some respondents lamented that most government institutions lacked confidence in dealing with minor disasters on records such as misplacement of records and huge volumes of files kept haphazardly on floors.

Staff turnover in the field of records management was mentioned as a challenge facing MYSC-DCS and BNARS. Some respondents indicated that MYSC-DCS and BNARS send employees for training to enhance their archives and records management skills and later on the employees seek greener pastures among other governments and private organisations or they are snatched away by highly rewarding organisations. They emphasized that BNARS has lost a good number of employees due to departmental transfers and some sought greener pastures elsewhere. It can be said that staff movement and non-retaining of employees is hindrance to the development of disaster preparedness plan as the institution will have to train the new employees. In addition, the new employees take time to adapt to the new environment in order to develop working plans.

Furthermore, the challenge of preserving electronic records involves complex processes especially when dealing with digital objects that contain embedded images (still and moving), drawings, sounds, hyperlinks, or spreadsheets with computational formulas. These records cannot be converted to paper or text formats without the loss of context, functionality, and information. In addition, electronic records are mostly fragile, have limited shelf life, and become obsolete in a few years. As a result, respondents indicated that electronic records are increasingly being created in volumes that pose significant technical challenge to their ability to organize and make them accessible, that is, email documents more especially attachments of reports and other useful supporting documents created for business operations. The respondents 11 (73%) mentioned that lack of organization's business priority on disaster preparedness also pose threat to the establishment of disaster preparedness plans on records. In addition, 10 (68%) of the respondents stated that relevant training and awareness on disaster preparedness is a challenge at MYSC-DCS and BNARS.

When interviewing key informants, most of the respondents lamented the lack of having a disaster preparedness plan for public sector records. One of the respondents argued that this problem emanates from lack of or minimal sensitization of staff on disasters at their respective ministries or departments on policies. Respondents argued that most government departments are not prepared to deal with disasters as there are a lot of problems affecting records management including minor issues such as misplacement of confidential records. In some departments, there are huge piles of records files on the floor. Some respondents pointed a finger to administration issues as one of the major challenges in records management. They asserted that sometimes records personnel are empowered in dealing with challenges of records management such as training, and later on get transferred to other departments hence benefiting

foster departments. These transfers results in setbacks to the departments that recruited and sent staff for training, and as such, they could not continue training people every time and then lose them. Some respondents argued that funding is one of the major challenges facing records management. Funds are important for training staff, buying and maintaining equipment and other necessary resources important in records management. In addition, there is lack of management support for Records Management Units in issues of records management in general, and this results in the negligence of records management issues.

There was a contention on funds for disaster preparedness. Respondents argued that funds are not enough while others felt the funds are enough. Sometimes one never knows the funds are enough or not until they are hit by disasters because the magnitude of disasters differ. In addition to the funds and personnel there are three records centres country-wide to supplement BNARS, Gaborone Records Centre, Francistown and Kanye Records Centres in case one area is hit by a disaster. Respondents believed that the only problem is the distance between these organisations or places as they are situated far apart from each other. This is a challenge because transport can be a limitation for transferring records to the records centres. Another way of preserving records for safety according to respondents is keeping records in duplicate in different formats, one in paper records and another electronically so as to complement each other. Some of the respondents from key informant interviews stated that fighting the infestation of pests on records storages is essential. Records must be cared for, and kept away from termites and any other parasites. The buildings must be purposively built for keeping and storing records.

In summary, the challenges facing records management include preservation of electronic records due to degradation of the softwares or systems required for storage, lack of organisations priority on disaster preparedness plans, lack or minimal sensitisation of staff on disasters affecting records and precautions, misplacement or missing records, staff turnover, minimal or budget constraints on records management and lack of management support. Ngulube (2005) and the National Electronic Commerce Coordinating Council (2004) had noted that indeed inadequate funding hinders implementation of effective records management activities. Ngulube and Tafor (2006) had also observed that technology is a major challenge of records management. Lack of technological resources contributes to poor records management as some electronic records needs specific format or systems for them to be readable or accessed.

4.11 Dealing with Records Management Challenges

In order to determine how the challenges discussed above can be addressed, respondents were asked to provide possible solutions to those challenges. The findings revealed that respondents believed that that there is need for a clear policy on records which must be timely reviewed to keep up with current challenges facing records. In addition, respondents stated that resources are also necessary for effective records management such as skilled personnel, equipment, and transport. Furthermore, respondents asserted that planning is very important in records management. They argued that planning is essential as deliberate actions help prevent disasters in damaging records than reacting when disasters have already occurred (prevention is better than cure). Respondents also argued that the government must invest in records management such as keeping their records at data banks as well as investing in advanced technology for records management such as electronic records than in the old fashioned ancient manual paper records.

The respondents were asked to indicate the preservation strategies for records. The majority of the respondents 12 (80%) suggested the following basic principles of record-keeping to be used at MYSC-DCS and BNARS:

- Always keeping desks and records storage areas clean and free of records when not in use.
- Distinguishing between information and records as soon as possible after creating/receiving them: keep records safe for ongoing use and remove non-record information as soon as possible.
- Assigning clear and understandable names to all records or file folders so that electronic and paper records can be easily filed and retrieved.
- Destroying duplicates or convenience copies of records as soon as they are no longer needed.
- Securing official records in authorized record-keeping systems, such as physical or electronic storage repositories, according to established classification systems or file plans.

The findings also shows that the majority of the respondents 13 (86%) further indicated that electronic records require additional safeguards to protect them from loss or damage. Most importantly is to work with the IT specialists and the records specialists at MYSC-DCS and BNARS to guarantee that computer systems are configured properly. This enables electronic

records to be created, managed, and stored securely and disposed-off appropriately. The respondents outlined the role of IT specialists as that of:

- Making regular and secure backups of all official records.
- Making robust, high-quality computer firewalls and up-to-date virus protection software.
- Creating strong password protection for all computers and related equipment.
- Installing data encryption as appropriate to protect sensitive electronic records.
- Installing surge protectors and backup systems to protect computers during power outages.

4.12 Summary

The discussion above has illustrated many strategies to support preservation and management of public records during disasters. The results show that appropriate planning and designing archiving techniques help limit the impact of disasters. The archiving places should provide suitable conditions against environmental factors so that records are not lost or damaged. The preservation of information recorded on traditional materials such as paper or film requires significant resources, while the preservation of electronic records needs new software and hardware appropriate for the access and management of records. The next chapter provides a summary of the findings, conclusions and recommendations.

Chapter 5: Summary of Findings, Conclusion and Recommendations

5.1 Introduction

This chapter presents a summary of the findings, draws conclusion for the results and provides possible ways of dealing with the disaster preparedness of public records at the Ministry of Youth, Sports and Culture-Department of Corporate Services and Botswana National Archives and Records Services. The objectives of the study were to:

1. Establish the legal framework on disaster management in Botswana.

2. Identify disasters that have affected records held at Ministry of Youth, Sports and Culture-Department of Corporate Services and Botswana National Archives and Records Services.

3. Assess the level of preparedness for disasters for records in the Department of Corporate Services of the Ministry of Sports Youth And Culture and BNARS.

4. Identify measures put in place to reduce the impact of disasters on records before, during and after disasters.

5. Determine the methods used in the protection of electronic records against disasters at MYSC and BNARS.

6. Propose measures for effective response on disasters at the Ministry of Youth, Sports and Culture-DCS and BNARS.

The chapter is organised into summary of findings, conclusions, recommendations and areas of further research.

5.2 Summary of the Findings

The summary of findings is presented in accordance to the objectives of the study as shown above.

5.2.1 Legislative Framework on Disaster Preparedness in Botswana

The first objective of the study was to establish the legal framework for disaster management in Botswana. The key findings indicate that there is lack of records disaster preparedness laws in Botswana. At the national level, the NDMO is responsible for coordinating activities of government sectors to ensure that all elements of disaster management are integrated into

national development plans. However, as discussed in Chapter 5, the office does not deal with disasters affecting records directly. Botswana coordinates disaster measures through the Office of the District Commissioner at the district level. Though the country lacks disaster preparedness laws, BNARS as the corporate body mandated for the management of records in the country is in the process of developing a disaster preparedness plan for records. The draft disaster preparedness plan is at its initial preparatory stage and is yet to be approved.

5.2.2 Disasters Affecting Records

The second objective of the study sought to identify disasters likely to affect records held at the Department of Corporate Services at Ministry of Youth, Sports and Culture and Botswana National Archives and Records Services. The respondents identified fire, floods (rain, river, ocean), leaking pipes and drainage, earth quakes, country conflict, war and armed conflict and bombs, strike or labour unrest, vandalism and theft, chemical spill, electrical failure of the building, structural failure of the building, computer failure (due to viruses, hacking, no access passwords) and poor storage facilities were outlines as the disasters that affect records. The study has disclosed that MYSC-DCS and BNARS have been rarely affected by the floods.

5.2.3 Disaster Preparedness for Records

The study sought to establish the level of preparedness for records disasters at MYSC-DCS and BNARS. The study revealed that there is lack of disaster preparedness plans for records. In addition, the study observed that the records procedures manual developed by BNARS in 2007 is used as guidelines in managing records by all the government institutions.

5.2.4 Protection of Vital Records

Identifying vital records is prominent in developing a records disaster management programme. Not every record produced in the organisation will be preserved permanently hence identifying vital records assist in resuming the business operations after a disaster. This study revealed that vital records should be duplicated and stored offsite, stored in lockable cabinets. Back- up systems should be practised so as to ensure protection of vital records. The vital records programme be drawn so that the vital records are accessible whenever they are needed.

5.2.5 Protection of Electronic Records

The study also sought to determine the methods used to protect electronic records against disasters at MYSC-DCS and BNARS. Respondents mentioned that protection measures for protecting public records either e-records or paper should bear the physical environment and technological hazards. The physical aspects cover the form of the records, storage facilities while the environmental factors are air conditioning, light and hygienic conditions of storage facilities and the changing technological factors should be considered when protecting records. The study revealed that BNARS has fire detectors, fire measures and fire suppression for putting out fire thus reducing its impact on damaging records. Respondents mentioned that BNARS uses powdered foam to put out fire and the foam is said not to have any impact on records. Furthermore, the study revealed that MYSC-DCS and BNARS have held training and sensitization workshop on disasters and on ways in which records can be preserved to prolong their life span.

5.2.6 Challenges inhibiting Establishment of Disaster Preparedness for Records

The study sought to establish challenges hindering the development of disaster preparedness for records. The study also revealed challenges incurred by MYSC-DCS and BNARS in establishing disaster preparedness for records. The challenges identified are:

a) Technological obsolete in managing electronic records.
b) Shortage of records storage among the departments.
c) Lack of sensitization of staff on disaster preparedness plans.
d) Stuff turnover
e) Lack of funds or budget on records management.

5.2.7 Dealing with Records Management Challenges

The study also wanted to propose possible measures to deal with the challenges of disaster records response or plans. The respondents stated that it is essential for the government of Botswana to develop a clear legislation on records to improve the disaster preparedness for records in the public sector. In addition, respondents decried lack of resources for managing records that is skilled personnel, furniture and equipment, transport; stationery should be availed in order to protect records from any chances of being destroyed by disasters.

Furthermore, respondents argued that the government to invest on records management thus keeping records in advanced technologies that is keeping e-records rather than paper records which are prone to most of disasters, the use of back- up systems at an off-site storage can also assist the creating agency when attacked by fire, flood or any disaster. Records on off-site storage can be used to resuscitate business function and activities of an organization after disasters strike. As a result prematurely destroying of records will be eliminated if well established procedures for records management are put in place.

5.3 Conclusions

This study was an assessment of disaster preparedness, management and recovery of records at the Ministry of Youth, Sports and Culture in order to propose measures for effective response on disasters at the Ministry of Youth, Sports and Culture-DCS and BNARS. The objectives of this study were met. The study discovered that the level of preparedness at both MYSC and BNARS for disasters is good though not advanced. This is so because Botswana has never experienced serious disasters such as earthquakes and conflicts which are very deadly though it's prone to disasters mostly floods, fire, and poor storage which are mostly common in government institutions. MYSC-DCS and BNARS have measures in place for dealing with such disasters such as floods and fire. Though Botswana has done well in preventing records disasters, both BNARS and MYSC-DCS as major stakeholders or custodians of heritage are not committed to establishing a disaster preparedness plan since the National Archives was established in 1978 and is still yet to have a disaster preparedness plan as the country currently has a draft plan.

Botswana as a country is not ready to deal with major disasters on records because of many reasons. There are no adequate resources for safe keeping of records especially because the bulk of records are in paper form. This is exacerbated by the fact that the country is lagging behind to transform to electronic records which are much easier to handle than paper records. Secondly, there is shortage of skilled personnel to deal with records disasters as those few available are based at BNARS hence the majority of records officers are not skilled and capacitated in that aspect to deal with records disasters. As for the electronic records, the study revealed that MYSC-DCS and BNARS have put in place security measures in place to guard against computer disasters. These two departments have the use of strong passwords in computers, up to date virus protection installed and backups systems for power outages.

5.4 Recommendations

Based on the findings of this study, several recommendations have been made. The recommendations can be implemented on short and long term basis. The short term recommendations are:

1. MYSC-DCS and BNARS together with other stakeholders such as the Health and Safety agencies of the government should increase the level of public officers' awareness on disaster management and strategies dealing with the prevention, mitigation of disaster impacts. These workshops must include all personnel that deal (use and handle) with records and not only for records officers as is the case mostly.

2. Secondly, the Government of Botswana through its ministries and departments must allocate funds dedicated to Records Management Units for their operations as opposed to the current arrangement where Records Management Units request for funds from the same vote as other departments or units in ministries. This will help in eliminating the problem of lack of funds which is often given as a reason for failure to do some functions of the records management units as alluded to by some respondents. As far as respondents were concerned, there is lack of budget allocation for records management in their different departments. Records are being taken care of under the Administration budget hence records management is not given priority. Ngulube (2005) and National Electronic Commerce Coordinating Council (2004) stated that inadequate funding hinders records management. Therefore, the challenge needs to be addressed in order to make progress in terms of the records management practices and procedures.

3. All government organisations should organise and train staff on disaster management through workshops either in-house training or external workshops. Experts from the field of disaster management could be engaged to train staff on disaster awareness, reaction during and after disasters to avoid panic and unnecessary injuries.

In addition, the recommendations that follow below are categorised to be long term as more consultations need to be done to execute them.

4. This study together with the NDMO (2013) emphasized that Botswana lacks legislation on disaster preparedness. Therefore, this study recommends that there is need for the formulation of a policy on disaster management for records. The policy should be reviewed from time to time in order to meet the changing challenges affecting records management.

5. Based on the findings, protection of both paper and electronic records is essential for resuscitating business functions after an organisation being strike by disaster. It is recommended that MYSC-DCS and BNARS should identify vital records which must be highly protected separately from many other records as the identification of vital records is essential when planning for disasters for records. In order to save resources and money MYSC-DCS and BNARS should establish guidelines on selecting vital records in an organization so as to come up with a plan on how to handle such records. The vital records selection will also assist in developing a counter disaster measures for all archival and records including both electronic and paper records. Ngulube et al. (2013) stated that basic principles of records-keeping in order to protect both paper and electronic records should be practised. Therefore, selection or identifying vital records is vital when preserving records.

6. BNARS should benchmark from countries such as South Africa who are close to Botswana as well as at an advanced level in terms of disaster management, and which have been affected by many disasters on how they predict, dictate and prevent disasters from occurring as well as on how they deal with such occurrences when they occur. South Africa has a Disaster Management act, 2002 (International Federation of Red Cross and Red Crescent, 2011).

7. Based on the findings that power outages affect MYSC-DCS and BNARS. This study also recommends for regular routinely inspections and monitoring of electrical wiring and fitting of records storage locations in order to prevent electrical faults that may cause damage to records. These inspections and monitoring may be done through the government department of buildings or outsourcing to private companies.

8. Based on the findings that National Disaster Management Office deals with disasters in general. There is also need to extend the NDMO services or assistance to disasters on

records as NDMO currently deals with people who have been affected by disasters or establish an office whose responsibility is to deal with records disasters.

9. Based on the findings that BNARS loss staff for greener pastures. The department should consider attracting and retaining valuable employees. BNARS should ensure succession planning or opportunities for developing staff to take over from those leaving. In addition, steps should be taken to ensure that valued staff are retained and developed for current and future plans.

5.5 Areas of Further Research

This study is the first in Botswana on records disaster at MYSC-DCS and BNARS as some studies conducted the topic of disaster management on records have been captured under preservation of records. The study revealed that Botswana has a National Disaster Management Office which deals with the management of disaster in general hence the records disaster management is at minimal. Therefore, this study recommends that other studies should be conducted on the assessment of Botswana's readiness to records disasters management.

A further study can also be done to the prospects and challenges on records disasters by government departments sampling government ministries and departments across the country not necessarily looking at MYSC and BNARS.

References

Abdulwahab, I.O., Mulikat, A.B., Adegboyega, A.F. and Akangbe, R.B. (2012).Disaster Preparedness at the State Public Library, Ilorin, Kwara State, Nigeria. *Library Philosophy and Practice*. Available at: http://www.unllib.unl.edu/LPP/issa-aliyu.htm, [Accessed on: 21 March 2014].

Annum, G. (2016). Research Instrument for Data Collection. Available At: http://campus.educadium.com/newmediart/file.php/1/giilmadstore/UgradResearch/ThesisWrit4all/files/notes/resInstr.pdf[Accessed on: 21 May 2016].

Ahamefula, O.P. (2014). Conflict Management in the Workplace: Case Study of Centro Comunitario S. Cirilo (CCSC). University of Fernando Pessoa. Available at bdigital.ufp.pt/bitstream/10284/4309/3/THESIS.pdf, [Accessed on: 12 March 2016]

Archives and Records Management Section (2010) Section 15- Managing Risks and Protecting Vital Records-Protecting The Present Preserving for the Future. United Nations. Available at:
https://archives.un.org/sites/archives.un.org/files/files/DPKO%20Toolkit/Managing_risks_protecting_records.pdf, [Accessed on: 29 September 2014].

Archives and Records Management Services (2001). Disaster Preparedness and Vital Records. Available at: http://sydney.edu.au/arms/records_mgmt/URKMPart12.pdf, [Accessed on: 29 September 2014].

Australian Library and Information Association, (2010). ALIA Guide to Disaster Planning, Response and Recovery for Libraries. Available at:
http://www.alia.org.au/sites/default/files/documents/ALIA_Guide_Disaster_Plan_Resp_Recover.pdf, [Accessed on: 29 September 2014].

Babbie, E and Mouton, J. (2001). *The practice of Social Research.* South African Edition. Cape Town: Oxford University Press Southern Africa.

Bassham, L. E., and Polk, W. T. (2008).*Threat Assessment of Malicious Code and Human Threats*. California. National Institute of Standards and Technology Computer Security Division.

Baptise, A.J. (2009). Disaster Risk Reduction Through Schools: A Ground Breaking Project. Available at:

http://www.actionaid.org/sites/files/actionaid/disaster_risk_reduction_through_schools.pdf, [Accessed: 21 March 2014].

BNARS. (2009). *Records Management Manual and Procedures*. Gaborone: Government Printing.

Boote, D.N. and Beile, P. (2005) Scholars Before Researchers On The Centrality Of The Dissertation Literature Review In Research Preparation. Educational Researcher. Available at: http://library.queensu.ca/webedu/grad/Purpose_of_the_Literature_Review.pdf, [Accessed on: 24 May 2016].

Botswana Daily News (2016) Ramotswa Flooding. Botswana Daily News. Available at: http://www.dailynews.gov.bw/photo-news-details.php?nid=26950, [Accessed on: 20 March 2015].

Botswana Red Cross Society (2013). International Disaster Response Law (IDRL) in Botswana: A study on legal preparedness for facilitating and regulating international disaster assistance. Available at:

http://www.ifrc.org/PageFiles/139570/A%20study%20on%20International%20Disaster%20Response%20Law%20(IDRL)%20in%20Botswana%20final%20web%20version.pdf, [Accessed on: 15 March 2015].

Bryman, A. and Bell, E. (2007). Business Research Methods. 2nd Ed. Oxford. Available at. https://books.google.co.bw/books?hl=en&lr=&id=l7u6BwAAQBAJ&oi=fnd&pg=PP1&dq=Bryman,+A.+and+Bell,+E.+(2007)+%E2%80%9CBusiness+Research+Methods&ots=AvPpvaIXLi&sig=NM2QcyRY4NhxOF8rY87bgAavzes&redir_esc=y#v=onepage&q=Bryman%2C%20A.%20and%20Bell%2C%20E.%20(2007)%20%E2%80%9CBusiness%20Research%20Methods&f=false, [Accessed on:15 March 2015].

Canadian Council of Archives (2003). Basic Conservation of Archival Materials. Available at: http://www.cdncouncilarchives.ca/rbch5_en.pdf, [Accessed on: 15 March 2015].

Corporate Research and Consultation Team (2012). Research and Consultation Guidelines: Questionnaires. Available at:
http://www.kirklees.gov.uk/community/yoursay/Questionnaires.pdf, [Accessed on: 02 May 2014].

Degu, G. and Yigzaw, T. (2006) Research Methodology. Available at:
http://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture_notes/health_science_students/ln_research_method_final.pdf, [Accessed on: 02 May 2014].

Department of General Services (n.d) Vital Records Protection and Disaster Recovery Handbook. California Records and Information Management. Available at:
http://www.documents.dgs.ca.gov/osp/calrim/DisasterHndbk12-03.pdf, [Accessed on: 02 May 2014].

Deputy Governor's Office (2005). Archives and Records Management: Vital Records Protection, Disaster Preparedness and Recovery Guidelines. Available at:
www.nationalarchives.gov.vg/inc/forms/vital/%20records%20protection%20disaster%20preparedness%20and%20recovery.pdf, [Accessed on: 15 April 2016].

Diether, V. B. (2016) Writing Chapter 3: The Methodology. Available at:
http://dissertationwriting.com/write-dissertation-methodology-help.html, [Accessed on: 24 May 2016].

Doig, J. (1997). Disaster Recovery for Archives, Libraries, and Records Management Systems in Australia and New Zealand. New South Wales. Available at:
http://books.google.co.bw/books?id=aKCjAgAAQBAJ&pg=PR4&dq=Doig+1997+Disaster&hl=en&su=x,[Accessed on: 15 April 2016].

Doyle, J.K. (2009). Face-to-face Interviews. Available at:
https://www.wpi.edu/Images/CMS/SSPS/Doyle-Face-to-Face_Surveys.pdf, [Accessed on: 02 May 2014].

Education Development Centre (2004). Key Informant Interviews: Data Collection Methods. Available at: www.oasas.ny.gov/prevention/needs/.../KeyInformantInterviews.pdf, [Accessed on: 02 May 2014].

Eidelson, R.J. and Eidelson, J.I. (2003). Dangerous Ideas: Five Beliefs That Propel Groups toward Conflict. Available at:
http://isites.harvard.edu/fs/docs/icb.topic920395.files/Dangerous%20Ideas.pdf, [Accessed on: 02 May 2015].

Family Health International (2000). Qualitative Research Methods: A Data Collector's Field Guide Qualitative Research Methods Overview. Available at: http://www.ccs.neu.edu/course/is4800sp12/resources/qualmethods.pdf, [Accessed on: 02 May 2014].

Fellegi, I. P. (2010). Survey Methods and Practices. Available at:

http://www.statcan.gc.ca/pub/12-587-x/12-587-x2003001-eng.pdf, [Accessed on: 02 May 2014].

Golafshani, N. (2003) Understanding Reliability and Validity in Qualitative Research. The Qualitative Report. Vol: 8. No: 4. pp: 597-607. Available at:

http://www.nova.edu/ssss/QR/QR8-4/golafshani.pdf, [Accessed on: 02 May 2014].

Government of Botswana, (2011a). National Disaster Management Office. Available at:

http://www.gov.bw/en/Ministries--Authorities/Ministries/State-President/Office-of-the-President/Divisions/National-Disaster-Management-Office/ [Accessed on: 24 October 2014].

Government of Botswana, (2011b).Department of Information Technology. Available at:

http://www.gov.bw/en/Ministries--Authorities/Ministries/Ministry-of-Transport-and-Communications/Departments/Information-Technology/ [Accessed on: 24 October 2014].

Government of Botswana, (2012a).Ministry of Youth Sport and Culture. Available at:

http://www.mysc.gov.bw/?q=aboutus, [Accessed on: 24 October 2014].

Government of Botswana (2012b).Botswana National Archives and Records Services. Available at: http://www.mysc.gov.bw/?q=dept_bnars# [Accessed on: 24 October 2014].

Hlabangaan, K. (2006) Disaster Preparedness in Libraries and Information Centres in Botswana. MARM Dissertation, University Of Botswana.

Hernon, P and Schwartz, C (2009). Reliability and Validity. Boston, Elsevier. *Library & Information Science Research*, Vol. 31. pp. 73–74

International Federation of Red Cross and Red Crescent Societies, Geneva. (2013). A Report on International Disaster Response Law Audit Workshop. Lansmore Hotel, Gaborone, Botswana. 12 November 2013. Available at:

http://www.ifrc.org/Global/Publications/IDRL/reports/Botswana%20IDRL%20workshop%20report%202013%20(3).pdf, [Accessed on: 21 March 2015].

International Federation of Red Cross and Red Crescent, (2011). Disasters in Africa: The Case for Legal Preparedness. Available at: http://www.ifrc.org/PageFiles/41164/Typefi%20Africa%20Report%20FINAL%20version.pdf, [Accessed on: 25 March 2015].

International Federation of Red Cross and Red Crescent Societies, Geneva (2004). The Hyogo Framework for Action and International Federation: World Disaster Report. Available at: http://www.ifrc.org/Global/hyogo-framework-federation-en.pdf, [Accessed on: 25 March 2015].

International Federation of Red Cross and Red Crescent Societies, Geneva (n.d.).Analysis of Legislation Related to Disaster Risk Reduction in South Africa. Available at: http://drr-law.org/resources/South-Africa-Case-Study.pdf, [Accessed on: 25 May 2016].

IRMT. (1999). Emergency Planning for Vital Records and Archival Services. Available at: http://www.irmt.org/documents/educ_training/public_sector_rec/IRMT_emergency_plan.pdf, [Accessed on: 21 March 2014].

Iwhiwhu, B. E (2011). Electronic Records Management in Africa: Problems and Prospects. Available at: www.igi-global.com/chapter/electronic-records-management-africa/45385, [Accessed on: 20 March 2016].

Kajevu, Z. (2012). Botswana Does Not Have Disaster Legislation: Sunday Standard (11 June 2012).available at:http://www.sundaystandard.info/botswana-does-not-have-disaster-legislation, [Accessed on: 20 November 2015].

Kalusopa, T. and Ngulube, P. (2012) Records Management Practices in Labour Organisations in Botswana. *SA Journal of Information Management*. Vol: 14. No: 1.pp: 1-15. Available at: http://www.sajim.co.za/index.php/SAJIM/article/viewFile/513/552, [Accessed on: 20 November 2015].

Karen, L. L. (2009). Strategies for Disasters Preparedness. The ALA Yearbook of Library and Information Science. Vol: 14. No: 1. pp: 1-6.

Kawulich, B.B. (2005) Participant Observation as a Data Collection Method. Vol: 6. NO: 2. Art: 43. Available at: http://www.qualitativeresearch.net/index.php/fas/article/view/466/996l, [Accessed on: 20 November 2015].

Keakopa, S. (2006) Management of electronic records in Botswana, Namibia and South Africa: Opportunities and Challenges, unpublished PhD Thesis, University College, London.

Kearton, A. and Graham, S. (2005) Vital Records. Available at: http://www.ed.ac.uk/polopoly_fs/1.84027!/fileManager/VitalRecords.pdf, [Accessed on: 14th March 2014].

Khan, H., Vasilescu, L.G., and Khan, A., (2008). Disaster Management Cycle – A Theoretical Approach. Available at: http://www.mnmk.ro/documents/2008/2008-6.pdf, [Accessed on: 20 November 2014].

Kilasi, M.P. (2010). An Assessment Of Disaster Preparedness For Public Sector Records Management In Tanzania: A Case Study of the President Office Public Service Management and Prime Minister's Office. MARM Dissertation, University of Botswana.

Kirton, M. (2013) Caribbean Regional Disaster Response and Management Mechanisms: Prospects and Challenges. Available at: http://www.brookings.edu/~/media/research/files/reports/2013/07/caribbeanregionalorganizations-disasters/caribbean-regional-disaster-response.pdf, [Accessed on: 21 March 2015].

Kootshabe, T.J. (2011). Preservation of Records in Selected Government Ministries and Departments in Botswana. MARM Dissertation, University Of Botswana.

Levy, Y. and Ellis, J.T. (2008). Framework of Problem-Based Research: A Guide for Novice Researchers on the Development of a Research-Worthy Problem. *The International Journal of an Emerging Trans Discipline.* Available at: http://www.Inform.nu/Articles/Vol1/ISJv11p017-033Ellis486.pdf, [Accessed on: 07 April 2014].

Long, G. (2009). Disaster Theory. Available at. https://www.training.fema.gov/.../long%20-%20**disaster%20theory**.doc, [Accessed on: 10 June 2016].

Magazi, L. and Ngulube, P. (2006).Protecting Documents against Disaster and Theft: The Challenge before the Public Libraries in Kwazulu-Natal, South Africa. *South African Journal for Libraries and Information Science,* Vol.72, No. 3, pp185-197.

Maripe, K. and Sinkamba, R. P (2014).Social Work Education and Disaster Risk Reduction in Botswana. *International Journal of Multidisciplinary Academic Rese*arch. Vol. 2, No: 2. Available at: http://www.multidisciplinaryjournals.com/wp-content/uploads/2014/05/Social-Work-Education-and-Disaster-Risk-Reduction.pdf, [Accessed on: 15 September 2014].

Marshall, C. and Rossman, B.G. (2006). Designing Qualitative Research. Available at: http://www.albris.com/search/books/qwork/1606859/used/Designing%20Qualitative%2Research, [Accessed on: 07 April 2014].

Martin, B.C. (2002). Disaster Recovery Plan Strategies and Processes. Available at: http://www.sans.org/reading-room/whitepapers/recovery/disaster-recovery-plan-strategies-processes-564, [Accessed on: 07 April 2014].

Mguni, M. (2016). Load Shedding Returns as Power Supply Drops. Available at: http://www.mmegi.bw/index.php?sid=4&aid=522&dir=2013/January/Thursday24, [Accessed on: 18 April 2016].

Moloi, J. (2009). E-Records Readiness in the Public Sector in Botswana. ESARBICA Journal, Vol: 28. Available at: http://search.proquest.com/docview/1544866604?pq-origsite=gscholar, [Accessed on: 25 August 2016].

National Archives and Records Administration Northeast Region (2004). Vital Records Management-A Briefing for Federal Agencies. Available at: http://docplayer.net/14453567-Vital-records-management.html, Accessed on: 21 March 2014].

National Disaster Management Office (2013). National Disaster Risk Reduction Strategy 2013-2018 beyond Vulnerability towards Resilience. Available at: http://www.bw.undp.org/content/dam/botswana/docs/Gov%20and%20HR/Botswana%20National%20Disaster%20Risk%20Reduction%20Strategy-April%202013.pdf, [Accessed on: 21 March 2014].

National Disaster Management Office. (2009). National Disaster Risk Management Plan. Available at: http://www.ifrc.org/docs/IDRL/Botwananationaldisasterriskmanagement.pdf, [Accessed on: 21 March 2014].

National Electronic Commerce Coordinating Council (2004). Challenges in Managing Records in the 21st Century. Available at: https://library.osu.edu/assets/Uploads/RecordsManagement/Challenges-in-21st-e-recs-neccc.pdf, [Accessed on: 21 March 2016].

National Emergency Management Agency (2013). National Disaster Management Framework. Available at: http://nemanigeria.com/downloads/documentations/National%20Disaster%20Management%20Framework.pdf, [Accessed on: 21 March 2014].

Neuman, L. W. (2007). Basics of Social Research: Qualitative and Quantitative Approaches. Cape Town, Sidney: Pearson International.

Nicholas, V. (2001). Disaster Preparedness at the National Archives of Zimbabwe: An Appraisal. *ESARBICA Journal*. Vol: 20, pp 114-116.

Ngulube, P., (2005). Disaster and Security Management in Public Archival Institutions in ESARBICA region. *African Journal of Library, Archives and information Science*. Vol: 15. No: 1. pp: 15-23.

Ngulube, P., Modisane, C.K. and Mnkeni-Saurobe, N. (2013). Disaster Preparedness and the Strategic Management of Public Records in South Africa: Guarding against collective Cultural Amnesia. The XXI ESARBICA Biannual Conference. Joaquin Chissano International Conference centre, Maputo Mozambique. Available at: http://esarbica.com/Ngulube,_Modisane_and_Mnkeni-Saurombe.pdf, [Accessed on: 21 March 2014].

Ngulube, P. and Tafor, V.F. (2006). An overview of themanagement of public records and archives in themember countries of the East and Southern AfricaRegional Branch of the International Council onArchives (ESARBICA). *Journal of the Society of Archivists,* 27: 58–83.

Office of the President (1996). National Policy on Disaster Management. Available at: http://www.ifrc.org/Docs/idrl/281EN.pdf, [Accessed on: 21 March 2014].

Office of the President (2009) NDMO Hosts National Consultation Workshop. Available at: http://www.gov.bw/Global/OP%20Ministry/national%20consultation%20workshop.pdf, [Accessed on: 21 March 2015].

Office of the President, Botswana (2011). Address to Ntlo ya Dikgosi on the Public Service Strike by Honourable, The Acting President LT. General Mompati S. Merafhe. Office of Ombudsman. Gaborone, June 07, 2011. Available at: http://www.gov.bw/Global/OP%20Ministry/Statement%20by%20the%20Acting%20President,H.H.%20the%20Vice%20President,at%20briefing%20of%20Ntlo-ya-Dikgosi%20on%20the%20strike.pdf, [Accessed on: 21 September 2015].

Office of the President, Botswana (2011). National Disaster Management Office. Available at: http://www.gov.bw/en/Ministries--Authorities/Ministries/State-President/Office-of-the-President/Divisions/National-Disaster-Management-Office/ [Accessed on: 21 May 2016].

Palys, T. (2008). Purposive Sampling. Available at: http://www.sfu.ca/~palys/Purposive%20sampling.pdf, [Accessed on: 02 May 2014].

Perry, A. (2000). Caprivi Strip: World Court Awards Island to Botswana. International Court Of Justice Case Concerning Kasikili/Sedudu Island (Botswana/Namibia). IBRU Boundary and Security Bulletin, Vol: 8. No 2. pp. 81-87. Available at: file:///C:/Users/Administrator/Downloads/bsb8-2_perry%20(1).pdf, [Accessed on 25 August 2016].

Queensland States Archives (2012). Disaster Preparedness and Response for Public Records: a Guide for Queensland Public Authorities. Available at: http//www.archives.qld.gov.au/recordkeeping/GRKDownloads/Documents/DisasterPreparednessAndResponseFor-PublicRecordsGuidelines.pdf, [Accessed on: 02 May 2014].

Queensland State Archives (2013). Public Records Brief: Identifying and Managing Vital Records. Available at: http://www.archives.qld.gov.au/Recordkeeping/GRKDownloads/Documents/vitalrecords.pdf, [Accessed: 21 March 2014].

Ramokate, K. and Moatlhodi, T. A. (2009). Battling the appraisal backlog: A challenging professional obligation for Botswana National Archives and Records Services. *ESARBICA Journal*,Vol.29. pp. 67-86. Available at: http://www.ajol.info/index.php/esarjo/article/view/64290, [Accessed on: 21 March 2015]

Reja, U., Manfreda, K.L., Hleben, V. and Vehovar, V. (2003). Open Ended Vs Close Ended Questions in Web Questionnaires. Available at: www.stat-d.si/m219/reja.pdf, [Accessed on: 02 May 2014].

Roberts, C. (2003). Ethical Guidelines. Available at: http://the-sra.org.uk/wp-content/uploads/ethics03.pdf, [Accessed on: 20 April 2016].

Rockinson-Szapkiw, A.J. (n.d.). The Importance of the Literature and the Theoretical Framework. Available at: http://www.amandaszapkiw.com/artifacts/research-process-theoreticalframework/Research%20Process_%20The_Literature_Review_and_Theorectical_Framework.pdf, [Accessed on: 20 April 2016].

SADC (2010). Outcomes and Recommendations of the Pre-Season Preparedness and Planning Workshop 5-8 October 2010 Gaborone, Botswana. Available at: http://www.sadc.int/files/1813/5827/0640/SADC_2010_PreSeason_Workshop_Outcomes_and_Recommendations.pdf, [Accessed on: 02 May 2014].

Saffady, W. (2005). Risk Analysis and Control: Vital Records Protection. *The Information Management Journal*. Available at: http://www.arma.org/bookstore/files/saffady.pdf, [Accessed on: 21 March 2014].

SAS Institute. (2005). Concepts of Experimental Design. Design Institute for Six Sigma. Available at: https://support.sas.com/resources/papers/sixsigma1.pdf, [Accessed on: 02 May 2014]

Security Council of Botswana. (2014). Statement by Botswana at the Open Debate of United Nations Security Council Protection of Civilians. 12 February 2014. Available at. www.responsibilitytoprotect.org/Statement%20by%20Botswana%20at%2, [Accessed on: 19 April 2016].

Segokgo, B. (2016). Fire Halts Services at Gumare Hospital. Botswana Daily News. Available at: http://www.dailynews.gov.bw/news-details.php?nid=27051, [Accessed on: 20 March 2015] .

South African National Disaster Management Framework (2005). Introduction: A Policy Framework for Disaster Management in South Africa. Available at: https://www.capetown.gov.za/en/.../SA_National_Disaster_Man_Framework_2005.pdf, [Accessed on: 25 May 2016].

State Records of Australia. (2007). Records Management Disaster Planning: Guideline. Available at:

http://www.archives.sa.gov.au/files/management_guidelines_ARM_disasterplanning.pdf, [Accessed on: 21 March 2014].

State Records Authority of New South Wales. (2002). Vital Records Protection. Available at: https://www.records.nsw.gov.au/recordkeeping/advice/disaster-management/counter-disaster-strategies-for-records-and-recordkeeping-systems/vital-records-protection, [Accessed on: 24 May 2016].

State of Victoria (2014). Records Storage: Disaster Preparedness and Management. Available at:

http://prov.vic.gov.au/wpcontent/uploads/2014/06/PROS_1101_G11_Disaster_Preparedness_Review_Draft.pdf, [Accessed on: 29 September 2014].

Stephens, D.O. (2003). Protecting Records in the Face of Chaos, Calamity and Cataclysm. "*The Information Management Journal*".Vol. 1, pp. 33-40.

The State of Florida. (2010). Electronic Records and Records Management Practices. Florida Department of State of Division of Library and Information Services. Available at: http://dos.myflorida.com/media/31109/electronicrecordsmanagementpractices.pdf, [Accessed on 25 August 2016].

The University System of Georgia Records Management Policy (2009).Records Management Disaster Preparedness Plan. Available at:

http://www.usg.edu/records_management/documents/061009RM_Disaster_Preparedness_Plan.pdf, [Accessed on: 15 September 2014].

The United Nations Office for Disaster Risk Reduction (2005). Hyogo Framework for Action 2005 - 2015: Building the Resilience of Nations and Communities to Disasters. Available at: http://www.preventionweb.net/files/1217_HFAbrochureEnglish.pdf, [Accessed on: 20 November 2014].

The World Bank. (2000). Managing Records as the Basis for Effective Service Delivery and Public Accountability in Development: An Introduction to Core Principles for Staff of the World Bank and Its Partners. International Records Management Trust. Available at: http://siteresources.worldbank.org/EXTARCHIVES/Resources/Core%20Principles.pdf, [Accessed on 25 August 2016].

The World Bank. (2010). Report on the Status of Disaster Risk Reduction in Sub-Saharan Africa. Available at: www.gfdrr.org/sites/gfdrr/files/publications.africa.pdf, [Accessed on: 15 September 2014].

UCLA Centre for Health Policy Research, (2013). Section 4: Key Informant Interviews. Available at: http://healthpolicy.ucla.edu/programs/health data/trainings/Documents/tw_cba23.pdf, [Accessed on: 02 May 2014].

United Nations Archives and Records Management Section (2016). How do I know which records are vital? Available at: https://archives.un.org/sites/archives.un.org/files/uploads/files/Guidance%20Vital%20Records.pdf, [Accessed on: 02 May 2016].

United States Department of Energy (2011). Identify And Protect Your Vital Records. Available at: http://energy.gov/sites/prod/files/IDENTIFY%20AND%20PROTECT%20YOUR%20VITAL%20RECORDS%20(2).pdf, [Accessed on: 02 May 2016].

United Nations Development Programme (2005). UNDP and the Hyogo Framework for Action: 10 Years of Reducing Disaster Risk. Available at: file:///C:/Users/kgosietsiles/Downloads/UNDP%20and%20the%20Hyogo%20Framework%20for%20Action%20-%2010%20years%20of%20reducing%20disaster%20risk.pdf,[Accessed on: 20 May 2016].

UNISDR (2012). UN System task team on the post-2015 UN Development Agenda: Disaster Risk and Resilience. Available at: http://www.un.org/en/development/desa/policy/untaskteam_undf/thinkpieces/3_disaster_risk_resilience.pdf, [Accessed on: 02 May 2015].

University of Sheffield (2005). Learning and teaching services: SPSS for data processing. Available at: https://www.shef.ac.uk/lets/strategy/resources/evaluate/general/data-analysis/spss, [Accessed on: 02 May 2015].

University of Southern California (2016). Organizing Your Social Sciences Research Paper: 5. the Literature Review. Available at: http://libguides.usc.edu/writingguide/literaturereview, [Accessed on: 24 May 2016].

University of Washington (2009). Vital Records. Available at: http://f2.washington.edu/fm/recmgt/managing/vitalrecords, [Accessed on: 24 May 2016]

Van Wyk, B. (2006). Research Design and Methods Part1. Available at: www.uwc.ac.za/Students/Postgraduate/.../Research_and_Design_I.pdf, [Accessed on: 02 May 2014].

Virtual University for Small States of the Commonwealth, (2013). Introduction to Disaster Management. Available at: http://www.col.org/SiteCollectionDocuments/Disaster_Management_version_1.0.pdf, [Accessed on: 02 May 2014].

Wamukoya, J. and Mutula, S. M. (2005). Capacity-Building Requirements for E-Records Management: The Case in East and Southern Africa. Records Management Journal, Vol: 15. No: 2. pp.71 – 79. Available at: http://www.msu.ac.zw/elearning/material/1193855844Cap.%20bng%20%20erecs%20in%20ESARBICA.pdf, [Accessed on: 15 April 2016].

Warfield C. (2016). Disaster Management Cycle. Available at: www.gdrc.org/uem/disasters/1-dm-cycle.html, [Accessed on: 02 May 2015].

Wilkinson, F. C., Lewis, L.K. and Dennis, N.K. (2010). Comprehensive Guide to Emergency Preparedness and Disaster Recovery. Chicago. Illinois: Association of College and Research Libraries.

Appendix 1: Questionnaire for RMU Staff

Disaster Preparedness for Records Management in the Public Sector: A Case Study of Corporate Services- Ministry of Youth Sports and Culture and Botswana National Archives and Records Services

Questionnaire for RMU Staff (Records Managers, Records Officers and Records Management Assistants

Introduction:

My name is Ntlogelang Oketsang, a University of Botswana student studying Masters in Archives and Records Management. I am conducting a study on "Disaster Preparedness for Records Management in the Public Sector, Botswana: A Case Study of Corporate services- Ministry of Youth Sport and Culture and Botswana National Archives and Records Services". The aim of the study is to assess the level of preparedness of the Department of Corporate Services, Ministry of Sports Youth and Culture and Botswana National Archives and Records Services for disasters likely to impact upon records management programmes and to develop a disaster preparedness framework for dealing with such occurrences.

You are kindly requested to complete the attached questionnaire.

Thank you.

Instructions: Kindly complete the questionnaire below.

All responses will be treated confidentially, and the information supplied will only be used for the purpose of this study.

a) Use the spaces provided to write your answers to the questions. If the space provided is not enough, use additional paper and attach it to the questionnaire.

c) Please, do not leave blank spaces. If the question does not apply, please indicate "N/A".

SECTION A: DEMOGRAPHIC INFORMATION

1) To be filled by Records Managers and Records Officers

   1.Ministry / Department /

    Agency

   2.Unit

   3.Designation

   4.Telephone / Mobile Number/e-

    mail

SECTION B: FUNCTIONS AND RESPONSIBILITIES

2) What kind of training / qualification do you have in Records Management?

   [   ] Masters Degree in Archives and Records Management

   [   ] Bachelor Degree in Archives and Records Management

   [   ] Diploma in Archives and Records Management

   [   ] Certificate in Archives and Records Management

   [   ] Any other (please specify)

3) How long have you been working in this Ministry /Department?

   [   ] 0-9 years   [   ] 10-19 years   [   ] 20-29 years   [   ] 30 years and above

4) What kind of records do you handle in your Records Management Unit? *(you can tick more than one option)*

   [   ] Paper based records   [   ] Electronic records   [   ] Hybrid

   [   ] Others, (please specify)

   ----

5) What is the staffing level/adequacy of records management staff in your Ministry/
department? [1 = Not adequate, 2 = Adequate, 3 = Very Adequate]

Sn	Certification	Adequacy		
		1	2	3
1	Masters in Archives and Records Management			
2	Bachelor degree Archives and Records Management			
3	Diploma Archives and Records Management			
4	Certificate Archives and Records Management			
5	Others (specify) …………………………………….			

6) Who manages records in your Ministry / Department? (*you can tick more than one)*

Sn	Description	Paper records	Electronic records
1	Human Resource and Administration Officers		
2	Records officers		
3	Head of the Department		
4	IT Specialists		
5	Secretaries		
6	Messengers		

[   ] Any other (please specify)

SECTION C: POLICIES, REGULATIONS AND PROCEDURES REGARDING DISASTER PREPAREDNESS

7) Does your Ministry/Department have a records and archives management policy/
guideline for managing public sector records? [   ] Yes   [   ] No   [   ] I don't
know

8) Has your Ministry/Department developed a disaster preparedness plan?   [ ] Yes [ ] No   [ ] I don't know   (*if Yes answer questions 10 up to 14, and if no then proceed from question 15*)

9) To what extent is the disaster preparedness plan for managing records ready?

[ ] Not yet started developing   [ ] Still in initial preparatory stage

[ ] Submitted disaster plan for approval   [ ] Disaster preparedness plan in operational

10) Who developed or will develop the plan?

[ ] Botswana National Archives and Record Services

[ ] National Disaster Management Office

[ ] Records Management Committee

[ ] External consulting firm/company

[ ] Ministry Management Team

[ ] I don't know

[ ] Any other (please specify)

11) Which aspect does it or will it cover?

[ ] Life disasters such as fire, bombs, earthquake etc

[ ] Records disasters such as fire, bombs, earthquake, theft, vandalism etc

[ ] Both Life and Records disasters

[ ] I don't know

[ ] Any other (please specify)

12) Is the disaster preparedness plan part of or will it be part of national disaster plan?

[ ] Yes   [ ] No   [ ] I don't know

13) How often is the plan reviewed or will it be reviewed?

[ ] Every year   [ ] After every disaster

[ ] Between two to five years   [ ] Never reviewed

[ ] Any other (please specify)

14) Why do you think there is no disaster plan in place? (*you can circle more than one)*:

[ ] few risks   [ ] lack of resources to develop and implement it

[ ] lack of staff   [ ] lack of expertise to develop and implement it

[ ] I don't know   [ ] responsibility of the fire brigade and disaster management office

[ ] Any other (please specify)

SECTION D: POTENTIAL DISASTERS LIKELY TO HIT THE ORGANISATION

15) Has your Ministry/Department ever experienced disasters in the past?

[ ] Yes   [ ] No   [ ] I don't know

16) What type of disasters have been affecting your ministry/department and to what extent?
[0=Not Sure, 1 = Never, 2=Rare, 3=Occasionally, 4=Frequently, 5=Always] (*indicate all by circling the extent of occurrence number)*

Sn	Hazard	Extent of occurrence					
1	Fire	0	1	2	3	4	5
2	Floods (rain, river, ocean)	0	1	2	3	4	5
3	Leaking pipes and drainage systems	0	1	2	3	4	5
4	Earthquake	0	1	2	3	4	5
5	Country internal conflicts	0	1	2	3	4	5

Sn	Hazard	Extent of occurrence					
6	War or armed conflict (external)	0	1	2	3	4	5
7	Bombs, industrial accidents and explosions	0	1	2	3	4	5
8	Strike or labour unrest	0	1	2	3	4	5
9	Vandalism or theft	0	1	2	3	4	5
10	Chemical spill	0	1	2	3	4	5
11	Power failure (electricity)	0	1	2	3	4	5
12	Structural failure of the building	0	1	2	3	4	5
13	Computer Failure (due to viruses, hacking, no access passwords, damage etc)	0	1	2	3	4	5
14	Poor storage conditions(such as temperature, humidity, cleanness)	0	1	2	3	4	5

[ ] Any other (please specify)

17) To what extents are the following disasters likely to affect public sector records in your Ministry/ Department in the next ten years? [0= Not sure, 1 = Never, 2=Rare, 3=Occasionally, 4=Frequently, 5=Always] (*indicate all by circling the extent of occurrence number)*

Sn	Hazard	Extent of occurrence					
1	Fire	0	1	2	3	4	5
2	Floods (rain, river, ocean)	0	1	2	3	4	5
3	Leaking pipes and drainage systems	0	1	2	3	4	5
4	Earthquake	0	1	2	3	4	5
5	Country internal conflicts	0	1	2	3	4	5
6	War or armed conflict (external)	0	1	2	3	4	5
7	Bombs, industrial accidents and explosions	0	1	2	3	4	5
8	Strike or labour unrest	0	1	2	3	4	5

9	Vandalism or theft	0	1	2	3	4	5
10	Chemical spill	0	1	2	3	4	5
11	Power failure (electricity)	0	1	2	3	4	5
12	Structural failure of the building	0	1	2	3	4	5
13	Computer Failure (due to viruses, hacking, no access passwords, damage etc)	0	1	2	3	4	5
14	Poor storage conditions(such as temperature, humidity, cleanness)	0	1	2	3	4	5

[ ] Any other (please specify)

SECTION E: PUBLIC SECTOR RECORDS DISASTERS PREPAREDNESS

18) How is disaster preparedness for records management in the public sector in your ministry handled or addressed? (*Please indicate by ticking whether YES , NO or Not sure against each question*)

Sn	Question	Yes	No	Not sure
1	There is disaster preparedness management unit/office in the country			
2	There is disaster preparedness management team in the ministry/ department/ agency			
3	There is an up-to-date contact list of disaster management key players in the organisation in case of disaster(s)			
4	There is an up-to-date list of staff to contact in place in case of emergency			
5	There is a clear communication structure, roles and responsibilities in the organisation in case of emergency			
6	All disaster responsibilities are clearly laid down in the disaster management plan, and members of staff are aware of their responsibilities			

Sn	Question	Yes	No	Not sure
7	Risk assessment (of building, equipment and utilities) are regularly carried out			
8	There is an operational fire alarm system (including smoke detectors) in the ministry/ department/ agency			
9	The ministry/department/ agency has information security policy/plan in place			
10	Records and information materials are environmentally maintained in the controlled storage facilities?			
11	Training and emergency drills are regularly conducted in the ministry/ department/ agency			
12	The ministry/ department/ unit/ agency has an electronic theft device system(s)			
13	All members of staff in the ministry/department/agency are vetted			
14	There is a mechanism of measuring the loss of public records in the ministry/ department/ unit/ agency			
15	There are procedures in place that would be followed in the event of vandalism			
16	All records and information facilities are disaster resistant and have access controlled			

19) How are security measures and access to your ministry/ department/ unit controlled? (*you can tick more than one*)

[   ] all staffs' use identification cards

[   ] all staff use automated access cards to enter the office (s)

[   ] mechanism of interviewing and registering all visitors is in place

[   ] there are security guards in place

[   ] use of close circuit cameras (CCTV) are in place

[   ] no strict security measures are in place

[   ] Any other (please specify)

20) How is access to the RMU controlled? (*you can tick more than one*)

    [   ] Restricted entry to all members of staff

    [   ] All visitors are restricted to access RMU

    [   ] Security guards are in place

    [   ] Close circuit cameras (CCTV) are in place

    [   ] No restriction measures are in place

    [   ] Any other (please specify)

SECTION F: PUBLIC SECTOR RECORDS DISASTERS RECOVERY

21) Does your ministry/department have a conservation unit or workshop for record and information materials recovery?   [   ] Yes   [   ] No

22) If there is no conservation unit or workshop, where are the damaged records materials restored?

    [   ] Botswana National Archives and Records Services

    [   ] Records Management Unit

[   ] through a Consultancy/outsourcing firm

[   ] No recovery on damaged materials at all

[   ] I don't know

[   ] Any other (please specify)

23) Who restores damaged records and information materials in your ministry/ department since there are no conservators?

    [   ] Botswana National Archives and Records Services

    [   ] Records Management Unit

    [   ] through a Consultancy /outsourcing firm

[ ] No recovery at damaged materials at all

[ ] I don't know

[ ] Any other (please specify)

24) Does the conservator possess relevant qualifications? Specify please.

[ ] PhD level

[ ] Masters Level

[ ] Bachelor degree level

[ ] Diploma level

[ ] Certificate level

[ ] Any other (please specify)

SECTION G: VITAL RECORDS PROTECTION

25) Has your Ministry/ Department identified and listed its vital records?

[ ] Yes   [ ] No   [ ] Not sure

26) How is vital records/ information materials protected in your Ministry/ Department?

(*you can tick more than one*)

[ ] duplicated

[ ] stored offsite

[ ] microfilmed

[ ] not protected

[ ] I don't know

[ ] Any other (please specify)

SECTION H: CHALLENGES AND WAY FORWARD

27) To what extent do the following challenges affect disaster preparedness for records management in your Ministry/ Department? [0= Not sure, 1= No, 2= Low, 3=medium, 4=High, 5= Very High] (*indicate all of them by circling the extent of occurrence number*)

Sn	Challenge	Level of extent					
1	Inadequate records management professional staff	0	1	2	3	4	5
2	Inadequate technical staff	0	1	2	3	4	5
3	Inadequate funding	0	1	2	3	4	5
4	Poor communication within and outside the organisation	0	1	2	3	4	5
5	Facilities for disaster preparedness	0	1	2	3	4	5
5	Relevant training and awareness on disaster preparedness	0	1	2	3	4	5
6	Security measures (paper and electronic records)	0	1	2	3	4	5
7	Technology obsolescence	0	1	2	3	4	5
8	Organisation business priority on disaster preparedness	0	1	2	3	4	5

[ ] Any other (please specify)

What would you suggest for improving disaster preparedness for public sector records in your Ministry/ Department/ unit? (*you can use extra sheet(s) if the space below is not enough*)

Thank you very much for your time.

Appendix 2: Questionnaire for IT Managers and IT Specialists

Disaster Preparedness for Records Management in the Public Sector: A Case Study of Corporate Services-Ministry of Youth Sports and Culture and Botswana National Archives and Records Services

Questionnaire for IT Managers and IT Specialists

Introduction:

My name is Ntlogelang Oketsang, a University of Botswana student studying Masters in Archives and Records Management. I am conducting a study on "Disaster Preparedness for Records Management in the Public Sector, Botswana: A Case Study of Corporate Services-Ministry of Youth Sport and Culture and Botswana National Archives and Records Services". The aim of the study is to assess the level of preparedness of the Department of Corporate Services, Ministry of Sports Youth and Culture and Botswana National Archives and Records Services for disasters likely to impact upon records management programmes and to develop a disaster preparedness framework for dealing with such occurrences.

You are kindly requested to complete the attached questionnaire.

Thank you.

Instructions: Kindly complete the questionnaire below.

All responses will be treated confidentially, and the information supplied will only be used for the purpose of this study.

a) Use the spaces provided to write your answers to the questions. If the space provided is not enough, use additional paper and attach it to the questionnaire.

c) Please, do not leave blank spaces. If the question does not apply, please indicate "N/A".

SECTION A: DEMOGRAPHIC INFORMATION

1) To be filled by IT Specialists

    1.Ministry /

    Department

2.Unit

3.Designation

4.Telephone / Mobile Number/e-

mail

SECTION B: FUNCTIONS AND RESPONSIBILITIES

2) What kind of training / qualification do you have in computer / IT?

[   ] PhD in Computer Science / Information Technology

[   ] Masters Degree in Computer Science/ Information
Technology

[   ] Bachelors degree in Computer Science / Information
Technology

[   ] Diploma in Computer Science / Information
Technology

[   ] Certificate in Computer Science / Information
Technology

[   ] Any other (please specify)

3) How long have you been working with your Ministry /Department?

[   ] 0-9 years　　　[   ] 10-19 years　　　[   ] 20-29 years　　　[   ] 30 years and above

4) What kind of ICT resources and infrastructure exist in your Ministry / Department? (*you
can tick more than one*)

[   ] Computers　　　　　　　　　[   ] Telephone lines

[   ] Printers / photocopiers / scanners　[   ] Local Area Network (LAN)

[   ] Intranet　　　　　　　　　　[   ] Internet

[ ] Any other (please specify)

SECTION C: POLICIES, REGULATIONS AND PROCEDURES REGARDING DISASTER PREPAREDNESS

5) Do electronic records form the foundation for accountability and transparency in your Ministry/ Department and to what extent?   [ ]
Never   [ ] Rare   [ ] Occasionally   [ ] Always

6) Is there a regulatory framework for managing electronic records in your Ministry / Department   [ ] Yes   [ ] No   [ ] I don't know

7) If Yes to question 6 above, are recordkeeping responsibilities documented and communicated via:

   1. Circular and / or Newsletters?   [ ] No   [ ] Yes
   2. Procedure manuals?   [ ] No   [ ] Yes
   3. Job descriptions?   [ ] No   [ ] Yes
   4. Policy statements?   [ ] No   [ ] Yes
   5. Others?   [ ] No   [ ] Yes (specify)----------
   ----

8) If yes to question 6 above, who developed it?

   [[] IT Specialists from within the MYSC

   [ ] MYSC Management team

   [ ] Outsourced to external consulting firm

[ ] Any other (please specify)

9) If Yes to question 6 above, is it compliant to:

   [ ] ISO 17799 -Information Technology codes of Practice

   [ ] Botswana National Archives and Records Services Acts and Regulations

   [ ] Botswana ICT Policy

   [ ] Any other (please specify)

10) Are all employees made aware of their electronic records keeping responsibilities?

   [ ] Yes   [ ] No   [ ] I don't know

11) Has your Ministry/Department developed a disaster recovery plan for electronic records?

[   ] Yes   [   ] No   [   ] I don't know   (*if Yes → 12 to 16, else*
→*17*)

12) To what extent is the disaster preparedness plan ready?

[   ] Not yet started developing   [   ] Still in initial preparatory stage

[   ] Submitted disaster plan for approval   [   ] Disaster preparedness plan in operational

13) Who developed or will develop the plan for electronic records?

[   ] e-Government unit[   ] Disaster Management Office

[   ] External consulting firm/company   [   ] Records Management Committee

[   ] IT Specialists within the MYSC   [   ] I don't know

[   ] Any other (please specify)

14) Is the electronic records disaster preparedness plan part or will it be part of national disaster plan?   [   ] Yes   [   ] No   [   ] I don't know

15) How often is the plan or will be reviewed?

[   ] every year   [   ] After every disaster

[   ] Between two to five years   [   ] never reviewed

[   ] Any other (please specify)

16) Why do you think there is no disaster plan in place for electronic records? (*you can mark more than one)*:

[   ] few risks   [   ] lack of resources to develop and implement it

[   ] lack of staff   [   ] lack of expertise to develop and implement it

[   ] I don't know   [   ] responsibility of the fire brigade and disaster management office

[ ] Any other (please specify)

SECTION D: POTENTIAL DISASTERS LIKELY TO HIT THE ORGANISATION

17) Has your ministry/department ever experienced disasters in the past?

[   ] Yes   [   ] No   [   ] I don't know

18) If Yes to question 12 above, what type of disasters have been affecting your Ministry/Department and how frequently? [0= Not sure, 1 = Never, 2=Rare, 3=Occasionally, 4=Frequently, 5=Always/common] (*please indicate all them*)

Sn	Hazard	Extent of occurrence					
1	Fire	0	1	2	3	4	5
2	Floods (rain, river, ocean)	0	1	2	3	4	5
3	Leaking pipes and drainage systems	0	1	2	3	4	5
4	Earthquake	0	1	2	3	4	5
5	Country internal conflicts	0	1	2	3	4	5
6	War or armed conflict (external)	0	1	2	3	4	5
7	Bombs, industrial accidents and explosions	0	1	2	3	4	5
8	Strike or labour unrest	0	1	2	3	4	5
9	Vandalism or theft	0	1	2	3	4	5
10	Chemical spill	0	1	2	3	4	5
11	Power failure (electricity)	0	1	2	3	4	5
12	Structural failure of the building	0	1	2	3	4	5
13	Computer Failure (due to viruses, hacking, no access passwords, damage etc)	0	1	2	3	4	5
14	Poor storage conditions(such as temperature, humidity, cleanness)	0	1	2	3	4	5

[ ] Any other (please specify)

To what extent are the following disasters likely to affect public sector records in your Ministry/ Department in the next ten years? [0= Not sure, 1 = Never, 2=Rare, 3=Occasionally, 4=Frequently, 5=Always] (*Please indicate the extent to all them*)

Sn	Hazard	Extent of occurrence					
1	Fire	0	1	2	3	4	5
2	Floods (rain, river, ocean)	0	1	2	3	4	5
3	Leaking pipes and drainage systems	0	1	2	3	4	5
4	Earthquake	0	1	2	3	4	5
5	Country internal conflicts	0	1	2	3	4	5
6	War or armed conflict (external)	0	1	2	3	4	5
7	Bombs, industrial accidents and explosions	0	1	2	3	4	5
8	Strike or labour unrest	0	1	2	3	4	5
9	Vandalism or theft	0	1	2	3	4	5
10	Chemical spill	0	1	2	3	4	5
11	Power failure (electricity)	0	1	2	3	4	5
12	Structural failure of the building	0	1	2	3	4	5
13	Computer Failure (due to viruses, hacking, no access passwords, damage etc)	0	1	2	3	4	5
14	Poor storage conditions(such as temperature, humidity, cleanness)	0	1	2	3	4	5

[ ] Any other (please specify)

SECTION E: PUBLIC SECTOR RECORDS DISASTERS PREPAREDNESS

19) How is disaster preparedness for electronic records management in the public sector in you ministry handled or addressed? (*Please indicate by ticking whether **YES** , **NO** or **Not sure** against each question*)

Sn	Question	Yes	No	Not sure
1	**Risk Assessment**			
1.1	There are regular risk assessment for electronic records within the MYSC			
2	**Planning**			
2.1	Are there counter disaster plans in place for electronic records keeping systems?			
2.2	Is the counter disaster plan for electronic records keeping systems tested regularly and modified over time to reflect organisational, technological and recordkeeping changes?			
2.3	How is computer rooms controlled? Are there fire alarms systems? CCTVs? Theft?			
2.4	There are mechanisms to protect computers from internal and external intrusion (such as use of firewalls, VLANs etc)			
2.5	Electronic records are always backup as data protection and recovery measures			
2.6	All computers are always protected by passwords			
2.7	There are electronic records audit trails			
2.8	Electronic records communicated via network systems are normal encrypted/decrypted for security reasons			
2.9	Electronic records storage mediums are environmentally maintained in the controlled storage facilities			
2.10	The ministry/ department/ unit/ agency has an electronic theft device system(s)			
2.11	All members of staff in the ministry/department/agency are vetted			
2.12	There are procedures in place that would be followed in the event of vandalism			
2.13	All records and information facilities are disaster resistant and have access controlled			

3	**Vital Records Protection**			
3.1	Vital records are identified and documented			
3.2	Does vital e-records protection include recovery and restoration procedures, form part of the counter disaster plan for records and record keeping systems?			
3.3	have preventive measures for protecting vital e-records been implemented			

20) How are security measures and access to your Ministry / Department controlled? (*you can tick more than one*)

[   ] all staff use identification cards

[   ] all staff use automated access cards to enter the office (s)

[   ] mechanism of interviewing and registering all visitors is in place

[   ] there are security guards in place

[   ] use of close circuit cameras (CCTV) are in place

[   ] no strict security measures are in place

[   ] Any other (please specify)

21) Does your ministry/ department have dedicated computer rooms (such as server) rooms?

[   ] Yes   [   ] No

22) If Yes to question 23 above, how is the access to computer room controlled? (*you can tick more than one*)

[   ] Restricted entry to all members of staff   [   ] Security guards are in place

[   ] All visitors are restricted to access Server room   [   ] No restriction measures are in place

[   ] Close circuit cameras (CCTV) are in place

[   ] Any other (please specify)

23) If Yes to question 23 above, do all security measures apply to all members of staff in your Ministry/ Department?   [   ] Yes   [   ] No

24) If Yes to question 23 above, are there appropriate environmental control measures for:
   1. Heat/room temperature   [   ] Yes   [   ] No   [   ] Not always
   2. Humidity   [   ] Yes   [   ] No   [   ] Not always
   3. Dust and general cleanness   [   ] Yes   [   ] No   [   ] Not always

25) Is there a backup power source in case of power failure from main supply?
          [   ] Yes   [   ] No

SECTION F: PUBLIC SECTOR ELECTRONIC RECORDS DISASTERS RECOVERY

26) Does your Ministry/Department have IT Specialists for electronic records and information materials recovery?   [   ] Yes   [   ] No   [   ] Not sure

27) If Yes to question 28 above, what categories and extent of IT specialists are available in your ministry/department? [0 = not sure, 1 = Low, 2 = adequate, 3 Sufficient]

Sn	Hazard	Staffing level			
1	IT Database Specialists	0	1	2	3
2	IT Network Specialists	0	1	2	3
3	IT Information Security Specialists	0	1	2	3
4	IT Web Specialists	0	1	2	3
5	IT Office applications Specialists	0	1	2	3

6	IT Systems Developments Specialists	0	1	2	3

[   ] Any other (please specify)

28) If Yes to question 28 above, what is the number of specialists and their qualifications?

[1= Certificate level, 2= Diploma level, 3= Bachelor degree, 4 = Master degree, 5 = PhD]

Sn	Hazard	Staffing level				
		1	2	3	4	5
1	IT Database Specialists					
2	IT Network Specialists					
3	IT Information Security Specialists					
4	IT Web Specialists					
5	IT Office applications Specialists					
6	IT Systems Developments Specialists					

[   ] Any other (please specify)

29) Are computer failure/damages always recovered / restored by internal IT staff?

[   ] Yes   [   ] No   [   ] Not always

30) If No or Not always from question 29 above, who attends damaged/failures to electronic records and information materials in your Ministry?

[   ] IT Specialists from MYSC (DCS)

[   ] through a Consultancy/Outsourced IT Company

[   ] No recovery at damaged electronic records and information materials at all

[ ] I don't know

[ ] Any other (please specify)

SECTION G: VITAL RECORDS PROTECTION

31) Has your Ministry/ Department identified vital electronic records?   [ ] Yes

        [   ] No   [   ] Not sure

32) If Yes to 33 above, where are vital electronic records stored? *(you can tick more than one option)*

[ ] In-house   [ ] stored offsite   [ ] Online

[ ] Backed up   [ ] not protected   [ ] I don't know

[ ] Any other (please specify)

33) How is technological obsolescence controlled for your vital records?   *(you can tick more than one)*

[ ] emulation   [ ] migration   [ ] Retaining original technology

[ ] Any other (please specify)

34) Is there a programme for migrating to off-site storage vital records and information materials in your Ministry/ Department? [   ] Yes   [   ] No

SECTION H: CHALLENGES AND WAY FORWARD

35) To what extent do the following challenges affect disaster preparedness for records management in your Ministry/ Department? [0= Not sure, 1= No, 2= Low, 3=medium, 4=High, 5= Very High] *(indicate all by circling the extent of occurrence number)*

Sn	Challenge	Level of extent					
1	Inadequate IT professional staff	0	1	2	3	4	5
2	Inadequate technical staff	0	1	2	3	4	5

3	Inadequate funding	0	1	2	3	4	5
4	Lack of relevant training	0	1	2	3	4	5
5	Poor communication	0	1	2	3	4	5
5	Lack of security measures	0	1	2	3	4	5
7	Technology obsolescence	0	1	2	3	4	5
8	Organisation business priority on disaster preparedness	0	1	2	3	4	5

[ ] Any other (please specify)

36) What would you suggest for improving disaster preparedness for public sector records in your Ministry/ Department?

Thank you very much for your time

Appendix 3: Interview Guide for HR Managers/ Admin/ HODs/ Ass-HODs

Disaster Preparedness for Records Management in the Public Sector: A Case Study of Corporate Services- Ministry of Youth Sports and Culture and Botswana National Archives and Records Services

Interview Guide for Human Resource Managers / Administrators and Heads & Assistant Heads of Departments and Units

1) What type of disasters has your ministry/ department experienced before?

2) Do you have a policy that governs disaster preparedness for public records? [I.e. Paper records? E-records?]

3) Has your ministry/department developed a disaster recovery plan?

4) What role does the BNARS play in the disaster preparedness for public records (paper + electronic records) in your ministry / department?

5) What facilities does your organisation have for records management disaster preparedness (both paper and electronic records) for man-made and natural disasters?

6) What human resource do you have for records disaster preparedness in your department/unit?   Conservator? IT specialists?

7) Do you have a vital records management programme in place?

8) What challenges does your ministry/ department face concerning disaster preparedness?

9) What role should the National Disaster Management Office play with respect to the protection of public sector records management?

10) What role do you think BNARS ought to play in handling records disasters in the country?

11) What suggestions do you have for improving disaster preparedness in public sector records in your ministry/ department?

Appendix 4: Interview Guide for Directors and Deputy Director of BNARS

Disaster Preparedness Frameworks for Records Management in the Public Sector: A Case Study of Corporate Services-Ministry of Youth Sports and Culture and Botswana National Archives and Records Services

INTERVIEW GUIDE FOR DIRECTORS AND DEPUTY OF NATIONAL ARCHIVES AND STAFF

1) In the past what disasters have affected public sector records in Botswana?

2) Is there a regulatory framework in place for disaster preparedness (prevention, response and recovery) for public sector records in BNARS?

3) Is there a national disaster preparedness plan/guideline for records management at BNARS?

4) How effective is the disaster preparedness (prevention, response and recovery) for public sector records in your department?

5) Are there enough resources (staff, facilities and funding) for disaster preparedness for public sector records in your organisation?

6) How is the capacity building and awareness for disaster preparedness for public sector records in your agency enhanced?

7) What are the challenges facing disaster preparedness for public sector records in Botswana?

8) What suggestions would you like to make in order to improve disaster preparedness for public sector records in your organisation?

Thank you.

Appendix 5: Observation Checklist

Disaster Preparedness Frameworks for Records Management in the Public Sector: A Case Study of Corporate Services-Ministry of Youth Sports and Culture and Botswana National Archives and Records Services

OBSERVATION CHECKLIST – DISASTER PREPAREDNESS FOR PUBLIC SECTOR RECORDS

SN	AREA OF OBSERVATION	COMPLIANCE		COMMENTS
		YES	NO	
1	**Planning**			
1.1	Is there any risk assessment document/report of potential disaster events identifying threats to records and record keeping systems performed?			
1.2	Availability of disaster plan document/policy for records and record keeping systems?			
1.3	Is there counter disaster test report/document for records and record keeping systems and modifications done over time to reflect organisational, technological and record keeping changes			
1.4	Does the building have compliance certificate regarding fire alarms, exit routes and emergency lighting?			
1.5	Are there emergency exit routes other than normal main entrance routes?			
1.6	Are all emergence exit routes, corridors and stairways			

SN	AREA OF OBSERVATION	COMPLIANCE		COMMENTS
		YES	NO	
	(including main entrance) clearly marked and unobstructed?			
1.7	Are there fire extinguishers present and easily accessible?			
1.8	Are there smoke detectors and sprinkler suppression systems in place?			
1.9	Are there any exposed electrical wires?			
1.10	Does the ministry/ department/ unit/ agency have fire alarm system?			
1.11	Are all shut-off valves, breaker switches clearly labelled?			
1.12	Do water pipes pass through records storage areas and working offices			
1.13	Are records and information materials stored on the floor?			
1.14	Are there basement floors used to store records and information materials?			
1.15	Are bottom shelves used to store records and information materials at least six inches above the floor?			
1.16	Is there anti-theft electronic system at the main entrance door?			
1.17	Are there intrusion detectors and alarm systems available?			

SN	AREA OF OBSERVATION	COMPLIANCE		COMMENTS
		YES	NO	
1.18	Are there locks and alarms on all doors?			
1.19	Are rooms and offices for staff-only clearly marked?			
1.20	Are office doors and window secured with bars and grills?			
1.21	Are there no cracked and broken windows and doors?			
1.22	Are records and information materials stored in lockable cabinets or shelves?			
1.23	Are there notices prohibiting eating, drinking and smoking displayed prominently?			
1.24	Is there Closed Circuit Television (CCTV) or other surveillance instruments in use?			
1.25	Is there use of passwords and back-up systems for electronic records?			
1.26	Are computers connected to network secured by firewalls, antivirus, illegal intrusion and hacking systems?			
1.27	Are measures against terrorisms and vandalism, plus industrial accidents in place?			
2	**Vital records protection**			
2.1	Are vital records identified and documented?			

SN	AREA OF OBSERVATION	COMPLIANCE		COMMENTS
		YES	NO	
2.2	Does the vital records protection include recovery and restoration procedures, form part of counter disaster plan for records and record keeping systems			
2.3	Have preventive measures for protecting vital records been implemented?			

Appendix 6: Ethical Considerations

Researcher: _____

Phone Number: _____

You are requested to participate in this research study of "**Disaster preparedness framework for Records Management in the Public Sector, Botswana: A Case study of Ministry of Youth Sport and Culture and Botswana National Archives and Records Services***"*. This research will be done by Ntlogelang Oketsang, a University of Botswana student pursuing a Master's Degree in Archives and Records Management. The purpose of the study is to assess the level of preparedness of the Department of Corporate Services, Ministry of Sports Youth and Culture and Botswana National Archives and Records Services for disasters likely to impact upon records management programmes and to develop a disaster preparedness framework for dealing with such occurrences. The research findings and recommendations will be of great importance to the Ministry of Youth Sport and Culture in the way of developing disaster preparedness plans for managing records. The population of the study will be purposively selected to participate in the study. The participant's identity is not required and your anonymity is guaranteed. All the information you provide will be treated with confidentiality. You are free to withdraw from participating in the study at any time if necessary. Your participation is highly appreciated.

Researcher: _____ **Date:** _____

(Signature)

Appendix 7: Request for Permission to Conduct a Study

P O Box 3458

Gaborone

24 November 2014

The Permanent Secretary

Ministry of Youth, Sports and Culture

GABORONE

Dear Sir/Madam,

REF: APPLICATION FOR ACADEMIC RESEARCH PERMIT

Reference is made to the above subject matter

I, Ntlogelang Oketsang of National Identity No: 340229118, request for permission to conduct a study titled*"Disaster Preparedness Framework for Records Management in the Public Sector in Botswana: A Case Study of the Ministry of Youth Sport and Culture and Botswana National Archives and Records Services"*in your Ministry. I am pursuing a Master's Degree in Archives and Records Management at the University of Botswana. The study is a partial fulfilment of requirements for the award of the Master's Degree in Archives and Records Management. The research involves collecting data from the ministry through the administration of a questionnaire, interviews with selected respondents from the MYSC and personal observations to be conducted at the ministry's Records Management Unit. Staff from the Botswana National Archives and Records Services will also be included in the study since the Department has the responsibility of providing guidance on records management practices in the country. Data collection for the research is planned to take place from January–April 2015.

A complete study will be submitted to the University of Botswana for examination purposes. The findings of the study/ dissertation will be made available to your organization so that you can benefit from the recommendations that will be suggested by the study. The information collected through participation in this research will only be used for academic purposes and research ethics will be highly observed.

I look forward to hearing from you soon.

Yours faithfully

Ntlogelang Oketsang,

Cell no: 71290555

Cc: Director, Botswana National Archives and Records Services

Appendix 8: Research Permit

REPUBLIC OF BOTSWANA

YSC 1/18/1 V (33)

09 January 2015

Miss Ntlogelang Oketsang
P O Box 3458
Gaborone

Dear Madam

RESEARCH PERMIT

This serves to acknowledge your application for a research permit on " **Disaster Preparedness framework for Records Management in the Public Sector in Botswana: a Case Study of the Ministry of Youth Sport and Culture and Botswana National Archives and Records Srvices.**"

The Permit is valid for a provisional period of seven (7) months, commencing January 12, 2015 to August 12, 2015 and is granted subject to the following conditions:

1. Copies of the final product of the study are to be directly deposited with the Ministry of Youth, Sport and Culture, National Library Services, National Archives and Records Services and Research and Development, University of Botswana.

2. The permit does not give youauthority to enter premises, private establishment or protected areas. Permission for such areas should be negotiated with those concerned.

3. You conduct your study according to particulars furnished in the application you submitted taking into account the above conditions.

4. Failure to comply with any of the above stipulated conditions will result in the immediate cancellation of the permit.

ministry of
youth, sport and culture
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Thank you

Yours Faithfully

Kerly D Kelly
For/Permanent Secretary

Cc.   Director, National Archives and Records Services

National Librarian, National Library Services

Director, Research and Development, University of Botswana.

Appendix 9: Consent Form

<div align="center">**Participant Consent Form**</div>

Please read and complete this form carefully. If you are willing to participate in this study, fill in the gaps and sign and date the declaration at the end. If you do not understand anything and would like more information, please ask.

Research title: "Disaster Preparedness Framework for Records Management in the Public Sector in Botswana: A Case Study of the Ministry of Youth Sport and Culture and Botswana National Archives and Records Services**".**

Researcher's name: Ntlogelang Oketsang

- I have heard the researcher explaining the nature and purpose of the research project to me verbally. I understand and agree to take part.
- I understand the purpose of the research project and my involvement in it.
- I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.
- I understand that all information about me will be treated in strict confidence and that I will not be named in any written work arising from this study.
- I understand that you will be discussing the progress of your research with others (supervisor and other lecturers) at University of Botswana
- I understand that I may contact the researcher or supervisor if I require further information about the research, and that I may contact the Coordinator of Masters' Programme at the Department of Library and Information, University of Botswana, if I wish to make a complaint relating to my involvement in the research.

Consent

I have read this consent form and have been given the opportunity to ask questions. I give my consent to participate in this study.

Signed …………………………………………………… (Research Participant)

Print name ………………………………… **Date** …………………………………

Contact details

Researcher: _____ *cell or tel no:* _____

Supervisor: _____*cell or tel no*_____

Appendix 10: Budget

Budget Plan for the research project in Pula (P)

Serial No	Item	Price
1	Stationery	P2500.00
2	Transport	P3000.00
3	Food	P1000.00
Total		**P6 500.00**