

**Preservation of Archival Materials at the University of
Namibia Archives: Disaster Preparedness and
Management**

**A research report submitted in partial fulfilment of the requirements for
the degree of Bachelor of Arts in Records and Archives Management
(Honours) to the University of Namibia, Faculty of Humanities and Social
Sciences, Department of Information and Communication Studies**

By

**Munsaka Mudenda Hakoma
(STUDENT NO: 201507429)**

2018

Supervisor: Professor C.T. Nengomash

ABSTRACT

This study aimed at investigating the preservation of archival materials at the University of Namibia Archives with a main focus on the disaster preparedness and management practices used in the Archives in Windhoek. The objectives were: to investigate the preservation methods that are in use at the UNAM Archives; to investigate if there was a policy applied by the archives in the preservation of the archival materials; to find out the preservation needs of the UNAM Archives, to discover the challenges if any experience by the UNAM Archives in the preservation of its materials; and to come up with recommendations to enhance preservation of material at the UNAM Archives. The study made use of the four (4) phases of the disaster management cycle to examine the strategies used in the preservation of the material, which are: prevention, preparedness, response and recovery.

The research design employed to the study was a case study of which the data was collected through the use of interviews and observation. The population of the study was the Archives staff members and purposive sampling was used to select 4 staff members who took part in the study. The data collected was later analyzed through content analysis.

The findings revealed that the preservation of archival material in the Unam Archives was not fully effective because of the lack of a disaster management policy in place and inadequate funding due to the financial constraints that led to inadequate training for staff members. However, the archives staff members trained themselves and read more on how to preserve the material in case of any disaster. Furthermore, the archives has equipped itself well with lockable doors, alarm systems, smoke detectors, water sprinklers in order to be prepared for any disaster that may come along in the near future. Based on the findings, recommendations are: the development and implementation of disaster management policy and the training of staff members on the best practices in preservation and disaster management..

DECLARATIONS

I, Munsaka Mudenda Hakoma hereby declare that this study is a true reflection of my own research, and that this work, or part thereof, has not been submitted for a degree in any other institution of higher education. No part of this research project may be reproduced, stored in any retrieval system, or transmitted in any form, or by any means (e.g. electronic, mechanical, photocopying, recording or otherwise) without the prior permission of the author, or the University of Namibia on his behalf.

I, Munsaka Mudenda Hakoma, grant the University of Namibia the right to reproduce this research project as a whole or in part, in any manner or format, which the University of Namibia may deem fit, for any person or institution requiring it for study and research; providing that the University of Namibia shall waive this right if the whole research project has been or is being published in a manner satisfactory to the University.

Student Name: Mundenda Mudenda Hakoma **Date:**.....

Signature:.....

DEDICATION

To my family, father, mother and sisters who have been there for me from when I was young. They encouraged me to strive for knowledge, greatness in life and, above all, be a better man. This is for you.

ACKNOWLEDGEMENTS

First of all, I wish to thank the almighty God for his sufficient grace and mercies that he has bestowed on me and the good health throughout my study. This study would not have been possible without the support and guidance of a number of people and institutions. I thank you all most sincerely.

1. My supervisor Prof. Cathrine T. Nengomasha, for your advice, guidance and also for being a good example to emulate;
2. UNAM Archives and library for granting me permission to carry out the research; and the individual respondents;
3. All who believed in me and never got tired of telling me that I could do it, even when I was about to give up;
4. My family for their patience, understanding and also the support they have given me through out this journey.
5. Lastly, I wish to take this opportunity to thank everyone who was directly or indirectly involved with the success of this project. May the Lord bless them abundantly.

Table of Contents

| | |
|---|-----|
| ABSTRACT | i |
| DECLARATIONS | ii |
| DEDICATION | iii |
| ACKNOWLEDGEMENTS | iv |
| LIST OF TABLES | ix |
| ABBREVIATIONS AND ACRONYMS | x |
| Chapter 1 | 1 |
| Introduction | 1 |
| 1.1 Introduction..... | 1 |
| 1.2 Orientation of the proposed study | 2 |
| 1.3 Statement of the problem | 3 |
| 1.4 Objectives of the study..... | 4 |
| 1.5 Significance of the study | 4 |
| 1.6 Limitation of the study | 5 |
| 1.7 Literature Review and Conceptual framework | 5 |
| 1.8 Methodology | 9 |
| 1.9 Research Ethics | 10 |
| 1.10 Summary..... | 11 |
| Chapter 2 | 12 |
| Literature Review | 12 |
| 2.1 Introduction..... | 12 |
| 2.2 Conceptual Framework..... | 12 |
| 2.3 Disaster management cycle | 14 |
| 2.3.1 Prevention Phase | 15 |
| 2.3.2 Preparedness Phase..... | 16 |
| 2.3.3 Response Phase..... | 17 |
| 2.3.4 Recovery Phase..... | 18 |
| 2.4 Challenges in Archival preservation in Africa | 19 |
| 2.4.1 Preservation of Paper-Based Records..... | 22 |
| 2.4.2 Preservation of electronic-records..... | 24 |
| 2.5 Summary..... | 26 |
| Chapter 3 | 27 |
| Research Methodology | 27 |

| | | |
|--------------|---|----|
| 3.1 | Introduction | 27 |
| 3.2 | Research Design | 27 |
| 3.3 | Data collection methods | 28 |
| 3.4 | Population | 30 |
| 3.5 | Sample | 30 |
| 3.6 | Research Instruments | 31 |
| 3.7 | Trustworthiness of the study | 32 |
| 3.8 | Procedure | 33 |
| 3.9 | Data analysis | 34 |
| 3.10 | Summary | 35 |
| | Chapter 4 | 36 |
| | Data Presentation | 36 |
| 4.1 | Introduction | 36 |
| 4.2 | Participant of the study. | 37 |
| 4.3 | Disaster Prevention | 38 |
| 4.3.1 | Support from University Management | 38 |
| 4.3.2 | Risk Assessment, Routine Maintenance, House Keeping and Security | 38 |
| 4.3.3 | Policies and Regulations | 40 |
| 4.4 | Disaster Preparedness | 40 |
| 4.4.1 | Disaster management Plan | 40 |
| 4.4.2 | Staff Training | 40 |
| 4.4.3 | Emergency Services Companies | 41 |
| 4.4.4 | Installed Equipment for Disaster Prevention | 41 |
| 4.4.5 | Supplies and Tools | 42 |
| 4.4.6 | Disaster | 42 |
| 4.4.7 | User Sensitization | 43 |
| 4.5 | Response to Disasters | 43 |
| 4.6 | Disaster Recovery | 44 |
| 4.6.1 | Capability of Staff | 44 |
| 4.6.2 | Alternative Accommodation | 44 |
| 4.6.3 | Recovery After Emergency or Disaster | 44 |
| 4.7 | Disaster preparedness challenges | 45 |
| 4.8 | Summary | 45 |
| | Chapter 5 | 47 |
| | Discussion of Findings, Summary, Conclusions and Recommendations | 47 |
| 5.1 | Introduction | 47 |

| | | |
|-------------|--|----|
| 5.2 | Disaster Prevention | 48 |
| 5.2.1 | Support from University Management | 48 |
| 5.2.2 | Risk Assessment, Routine Maintenance, House Keeping and Security | 49 |
| 5.2.3 | Policies and Regulations | 51 |
| 5.3 | Disaster Preparedness | 51 |
| 5.3.1 | Disaster management Plan | 52 |
| 5.3.2 | Staff Training | 52 |
| 5.3.3 | Emergency Services Companies | 53 |
| 5.3.4 | Installed Equipment for Disaster Prevention | 54 |
| 5.3.5 | Supplies and Tools | 55 |
| 5.3.6 | User Sensitization..... | 55 |
| 5.4 | Response to Disasters | 56 |
| 5.5 | Disaster Recovery | 57 |
| 5.5.1 | Capability of Staff | 57 |
| 5.5.2 | Alternative Accommodation | 57 |
| 5.5.3 | Recovery After Emergency or Disaster..... | 58 |
| 5.6 | Disaster Preparedness Challenges | 58 |
| 5.7 | Summary of the Findings | 59 |
| 5.7.1 | Disaster Prevention | 59 |
| 5.7.2 | Disaster Preparedness..... | 59 |
| 5.7.3 | Response to Disasters..... | 60 |
| 5.7.4 | Disaster Recovery..... | 60 |
| 5.7.5 | Disaster Preparedness and management challenges..... | 61 |
| 5.8 | Conclusions | 61 |
| 5.8.1 | Investigate the preservation practices at the UNAM Archives..... | 62 |
| 5.8.2 | To investigate the preservation methods that are in use at the UNAM Archives | 62 |
| 5.8.3 | To investigate if there is a policy applied by the archives in the preservation of the archival materials..... | 62 |
| 5.8.4 | To find out the preservation needs of the UNAM Archives | 63 |
| 5.8.5 | Discover the challenges if any were experienced by the UNAM Archives in the preservation of its materials..... | 63 |
| 5.9 | Recommendations | 63 |
| 5.10 | Suggestions for further studies | 64 |
| 5.11 | Final Conclusion | 64 |
| 6 | References | 66 |
| | APPENDIX A: Consent form | 72 |

APPENDIX B: Interview Guide 1: Head of Archives 73
APPENDIX C: Interview Guide 2: Staff members of Archives (Archivists) 74
APPENDIX D: PRESERVATION OBSERVATION CHECKLIST 75

LIST OF TABLES

| | |
|--------------|----|
| TABLE 1..... | 37 |
|--------------|----|

ABBREVIATIONS AND ACRONYMS

UNAM

–

University

of

Namibia

Chapter 1

Introduction

1.1 Introduction

Chapter one introduces the research topic which is “Preservation of Archival Material at the University of Namibia Archives: Disaster Preparedness and Management”. The chapter consists of an orientation to the study, problem statement, research objectives, and significance of the study and limitations of the study and a brief literature review and summary of the methodology.

According to Matangira (2016. p. 1), “an organisation tends to benefit more from efficient information systems, including records management than when it is operating with chaotic records” Furthermore, literature review consulted has shown and acknowledged the existence of problems in the preservation of archival material in most African countries hence having organisation that do not function at their fullest potential. This study was carried out under the notion that records in archival holdings need to be managed properly by using the four (4) phases of the disaster management cycle. Failure to do so usually leads to problems.

Through the disaster management cycle, the study examined the facilities and tools; training, challenges and awareness of archives preservation at the University of Namibia of which these form the backbone of any records keeping practices, were examined in this study. The researcher looked at the presence and absence of preservation practices and facilities such as policies, preservation tools, storage facilities, training activities and general awareness within the University of Namibia archives. For these factors are very important to the effective operations to be taken when preserving archival material thus these became points of investigation for this study.

1.2 Orientation of the proposed study

Archives have had the duty of keeping records of intrinsic value from the time of the records inception. The archives and the library have a mandate of providing services such as preserving and making access to the collections that they house possible for education, research purposes and also available to future generations (Segaetsho & Mnjama, 2012). Archives exist in order to preserve historic material and to make the material available for use. They differ from libraries in the way the materials are held, and the manner in which materials are accessed by people (Schmidt, 2011). Harvey (1994) states that, mankind learns from the past and the evidence of the past therefore has considerable significance to the human race and is worth saving because this is where the idea of preservation is rooted. He further goes on to define preservation as the all the managerial and financial aspects including storage, accommodation provision, staffing levels, policies, techniques, and methods involved in preserving library and archival materials and the information contained in them.

Walker (2013) describes preservation as all managerial, technical and financial issues applied to reduce deterioration and extend the life of materials to guaranty their continued availability, this includes the digital material. Therefore, efficient preservation of archives is important to the practice because it allows the archivists to prolong the life span of archives even in situations when they are in the process of deteriorating. Overtime, it has been discovered that it is better to carry out preventive measures on the archival material, for these measures can extend the life of the material and they are cheaper than the interventive measures that are taken when trying to restore or stabilize damaged material after deterioration has taken place (Sawant, 2014). Sawant (2014) states that deterioration on print media is caused by biological agents, environmental factors and human activities with the external causes of deterioration being poor handling or storage, theft or vandalism, fire and flood, pests, pollution, light, incorrect temperature and relative humidity (RH). However, in

terms of preservation of e-records, we have records that are born digital and records that are digitized hence these records have their own preservation requirements.

In a study conducted by Mahmood and Mari (2013), materials found in library and archive collections are composed of paper, parchment, palm leaves, birch bark, leather and adhesives used in bookbinding hence making the material vulnerable to insect attack, fungal growth, and any other form of deterioration that can be caused by unsuitable environmental conditions which can be extreme dampness or wide fluctuations in relative humidity associated with large variations in day and night temperatures, light and atmospheric pollutants. In cases where such deterioration occurs, conservation and restoration are very important practices that are considered to be central activities of preservation for they are concerned with the physical maintenance and repair of documentary materials (Olatokun, 2008). Forde (as cited in Ngulube, 2005) states that preservation policies are indispensable tools for organisations that are committed to facilitating the survival of materials in their custody. In addition, policies are important because they set out goals to be achieved as well as guidelines for implementing them.

Established in 1994 under the requirements of Namibia's Archives Act, 1992 (Act 12 of 1992), and guided by the UNAM Records Management Policy, the University of Namibia Archives unit has a mandate of ensuring the survival of the University of Namibia's memory for administrative, legal, historical and future research purposes (UNAM Archives, 2018). In order to achieve this, scholars have identified that the physical condition of archives must be monitored closely.

1.3 Statement of the problem

The University of Namibia archives is in charge of ensuring the survival of the University of Namibia's memory for administrative, legal, historical and future research purposes. It provides both traditional services and electronic information resources which are readily

accessible. In order to properly preserve the collections and make sure that the collections are accessible, it is important to make sure that the correct preservation and conservation practices are carried out on the material. Segaletsho and Mnjama (2012) identified the following preservation challenges: some archival buildings do not have the temperature and relative humidity regulated, and that there were no policies in place in order to protect the collection against pest attacks.

A study of preservation has not yet been done at the UNAM Archives and the purpose of this study was to identify the challenges faced by the University of Namibia Archives and to offer recommendations that could help the archives preserve its collections.

1.4 Objectives of the study

The main objective of this study was to investigate preservation practices of the UNAM Archives. The sub objectives are:

1. To investigate the preservation methods that are in use at the UNAM Archives.
2. To investigate if there is a policy applied by the archives in the preservation of the archival materials.
3. To find out the preservation needs of the UNAM Archives.
4. To discover the challenges if any experience by the UNAM Archives in the preservation of its materials; and
5. To come up with recommendations to enhance preservation of UNAM Archives.

1.5 Significance of the study

This study could inform the UNAM Archives in developing preservation policy and guidelines. The study findings contribute to body of knowledge on archives preservation in Namibia.

1.6 Limitation of the study

Limitation of the study can be defined as those characteristics of design or methodology that impacted or influenced the interpretation of the findings from your research (Labaree, 2013). The University of Namibia has a total number of 12 campuses around Namibia and there is only one archive that is found at the main campus. The study focussed on the main campus hence the findings may leave out factors pertinent to other campuses. The findings can therefore not be generalised to other campuses.

1.7 Literature Review and Conceptual framework

The literature review is done in order to illustrate more on the topic and how the research to be conducted has been influenced by previous work, including putting the research into context and explaining why the decisions to carry out the study were taken, in regards to how and why the research questions were formulated (Punch, 2009). According to Oliver (2012), a literature review is very vital to the research because it shows the work that has already been covered based on the subject matter. He further goes on to state that the literature review also shows the weaknesses and strengths of the study. The literature review gives the researcher a good idea of how much knowledge is available whether published or unpublished but this knowledge should be based on the subject matter (Pickard, 2007). Silverman (2010) states that a summary of what has already been found, what has not yet been found and the disagreements should be clearly outlined in the literature review.

Preservation of archival material is meant to extend the life of materials for the longest timeframe possible because this allows the archives to be able to make the material accessible for longer periods. According to Jimerson (2007), archives do not only help with today's organizations legally and fiscally accountable to the community, they hold yesterday's leaders and institutions accountable, based on their morals and effectiveness. Furthermore, there are different varieties of archives such as Government archives, Academic archives and

Corporate archives which are designed to serve an organisation's needs (Schmidt, 2011). Though we have these different varieties of archives, they all play the same role which is to help historians, scholars and other individuals or organisations to understand the histories that have shaped them (Yale, 2015).

One such archive is the academic archives which has been playing an important role in the preservation of records of academic institutions in order for the institutions to grow and provide very quality education. According to Purcell (2012), academic archives have changed from the traditional academic archives which consisted of an on-campus unit called university archives which usually was housed in the academic library to an archive that can influence their campus, researchers, library and other archival peers. However, the deterioration of information resources has been established in literature as a worldwide problem due to how delicate print and electronic records are. Olatokun (2008) states that African information managers such as librarians, records managers and archivists have been facing problems of effective preservation and conservation.

Planning, conservation treatment and any prevention actions taken in order to make the environment suitable or reduce the amount of damage or loss that can occur on the material, are actions that come with preservation. Furthermore, in order to provide access without giving the client the physical material, preservation offers the archivists an option to reformat the material. The lifespan of the material can easily be affected just by the way it is handled hence they should be maintained well (Ikegune, 2016).

Roberts and Etherington (as cited in Ngulube, 2003) state that conservation is a field of knowledge that deals with the coordination and planning for the practical application of the techniques of binding, restoration, paper chemistry, and other material technology, as well as other knowledge that is relevant to the preservation of archival resources. In addition, conservation is both preventive and remedial whilst preventive conservation includes the

indirect actions that are done on retard deteriorating material and the prevention of damage by introducing good conditions that are suitable for the preservation of materials (Ikegune, 2016).

Whilst the records are negatively affected by factors such as being handled by humans and nature, research has shown that the records are vulnerable to decay and damage by climatic and environmental factors (Njeze, 2012). In addition, the fact that traditional paper has an inbuilt decay factor, this has made it very challenging for archivists around the world to preserve their records. Though preservation can prolong the life of public records and archives as a management strategy, very little attention has been paid to the issue in sub-Saharan Africa (Ngulube, 2007).

Lately, due to the advancement of technology preservation specialists in the information community of libraries, archives, and museums have found ways of using digitization technology in order to enhance their techniques of reformatting. This has led to the specialists having to prepare themselves to face the challenges of preserving digital information (Conway, 2010). In as much as many information managers have tried to prolong the life of the material they house, other authors like Cloonan (2001) have argued that it is impossible to keep the material as it was when first created, called this state “The Paradox of Preservation”. He further stated that every time the material was conserved, preserved or restored, it was altered.

According to Wamukoya and Mutula (as cited in Segaletsho & Mnjama, 2012), the main issues that contribute to the poor state of preservation and conservation of material in most institutions was poor funding, the equipment is either unsuitable or not available, conservators are inadequately trained, there is a lack of policies to guide preservation and the paper used is of poor quality including the ink used in the production of books and other information materials. In Botswana, a study was undertaken and it revealed that many

information centres such as archives were not ready for any disasters be it manmade or natural disaster due to them not developing policies and procedures that were necessary in such situations (Hlabangaan & Mnjama, 2008).

According to Imenda (2014), a conceptual or theoretical framework clearly shows the view from which the research problem will be formulated by a researcher, the manner in which the investigation of the problem will be conducted, and what meaning they attach to the data accruing from such an investigation. By using concepts and theories, the researcher is assured of having more control of the direction, meaning and implications of his/her work (Cooper, 2008). Matangira (2016, p. 53) states that, “A conceptual framework is an end result of bringing together a number of related concepts to explain a given event or give a broader understanding of the phenomenon of interest.”

This study was guided by the disaster management cycle which involves prevention, preparedness, response and the recovery of materials against disasters. Many archives aspire to avoid disasters but only a few adequately prepare themselves against disasters (Ngulube, Modisane & Mnkeni-Saurombe, 2011). Archivists accept to protect the material they accept into their repositories from disasters and their efforts in relation to acquisition, arrangement, description, and preserving archival materials may be destabilized if the archives are lost as a result of a disaster (Ngulube, 2005). According to Forde (as cited in Ngulube, Modisane & Mnkeni-Saurombe, 2011), “preparedness involves raising awareness throughout the whole institution, allocating responsibilities, training staff...and deciding on salvage priorities”. Strict measure should be put in order to remove any potential issues that can lead to a disaster.

A disaster, whether natural or man-made is unexpected and its consequences are very destructive hence through analysing their own situation and resources, and devising a disaster preparedness plans, information centres need to prepare themselves for any possible disasters

(McIlwaine & Varlamoff, 2006). McIlwaine and Varlamoff (2006) state that preparedness phase involves the drawing up of a disaster preparedness plan, shows the roles of the disaster response team, ensures that the plan is available to all including it being revised after a period of time, staff should be trained, it identifies the priority material for salvage, maintain and update documentation that supports the implementation of the plan including the establishment and maintenance of links with outside agencies and individuals, collect and maintain supplies of emergency equipment, arrange for immediate funding and also being able to recover and attend to users as soon as possible after a disaster.

When disaster strikes, it is important to have a quick response and reaction plan. According to McIlwaine and Varlamoff (2006), there is a need to have a primary response and main disaster response that would raise an alarm and contact appropriate members of staff and appropriate emergency services in order to have them rescue staff members and also salvage the material. McIlwaine and Varlamoff further go on to say that the recovery phase is an attempt to getting things back to normal by quickly attempting to re-establish some level of service to users, if necessary in alternative accommodation, as soon as possible. In addition, there should be professional advice retrieved from experts when it comes to the state of the building after the disaster, collections should continue being treated and the insurance companies must be negotiated with during this phase.

1.8 Methodology

According to Mouton (2001), Research design is a plan or blueprint of how you intend conducting the research, it is a plan on how the research will proceed on his study. This study's research design is case study with a qualitative research approach. The data collection for the study involved conducting interviews with the staff of the UNAM Archives and observation. The population of this study was the staff of the UNAM Archives of the

archives. The researcher used purposive sampling to select the staff members consisting of the head of archives and archivists. This study made use of a semi structured interview guide as a research instrument and an observation checklist.

According to Lincoln and Guba (as cited in Elo et al., 2014), trustworthiness supports the argument that the researcher's findings are worth paying attention to. Trustworthiness of the study was ensured through triangulation, pre-testing of the interview guide and the researcher also carried out a member check. Permission to enter and use the UNAM Archives for research was requested from the Chief Librarian through the use of a letter from the researcher's supervisor. After the permission was granted the researcher conducted interviews with selected participants. The researcher observed practices such storage of material.

During the study, the participants were allowed to ask questions of clarity when they did not understand or did not know what was to be done. Respondents had the right to withdraw if they wished to as voluntary consent was ensured. Content analysis was used to analyse the data in this study as it offered a subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns. Furthermore, the data was presented through descriptive narrative.

1.9 Research Ethics

The interaction of the researcher and the people to be studied is mainly guided by some ethics. Ethical issues in research should be looked at because it reduces the risk of abuse or making mistakes for this can be costly. Matangira (2016, p 98) states "that it is for these reasons, that a researcher considers the needs and concerns of people under study and that a basis of trust be established between researcher and the study participants."

The researcher was fully aware of the huge responsibility to be respectful of research participants and their basic human rights and to be sensitive. During this study the researcher

made sure that the participants in the study knew that this was voluntary, and that they could withdraw from the activity if they had a change of mind. Every participant in the study signed a form of consent and the privacy of all the participants was respected at all time and everything that was gathered was treated as confidential. When reporting data, codes were used instead of names of the participants to maintain confidentiality.

1.10 Summary

The study focused on the preservation of archival material at the University of Namibia. The University of Namibia Archives unit has a mandate of making sure that the University of Namibia's memory lasts in order to keep its administrative, legal, historical actions and for future research purposes. The statement of the problem focuses on the fact that in order to preserve the collections and make sure that the collections are accessible, it is important to make sure that the correct preservation practices are carried out on the material hence it is very important to make sure that all preservation challenges are under control. The main objective of the study was to investigate the preservation practices at the UNAM Archive.

Furthermore, the study's significance is that it provides the UNAM Archives with information and guidelines that could inform policy and procedures and the findings contribute to the body of knowledge on archives preservation in Namibia. The study was limited to the main campus of the University of Namibia because this is where the only archives is located therefore the findings can be difficult to generalise to other institutions or other settings. The next chapter discusses the literature pertaining to this study.

Chapter 2

Literature Review

2.1 Introduction

Literature review is done in order to illustrate more on the topic and how the research to be conducted has been influenced by previous work (Punch, 2009). According to Oliver (2012), a literature review is very vital to the research because it shows the work that has already been covered based on the subject matter. He further goes on to state that the literature review also shows the weaknesses and strengths of the study. The literature review gives the researcher a good idea of how much knowledge is available whether published or unpublished but this knowledge should be based on the subject matter (Pickard, 2007). Silverman (2010) states that a summary of what has already been found, what has not yet been found and the disagreements should be clearly outlined in the literature review.

The literature reviewed in this chapter provides a range of literature within the area of archival preservation which is illustrated in two parts. The first part of the chapter discusses the conceptual framework. The second part elaborates on the challenges faced in archival preservation and conservation in Africa. The literature focuses on a general perspective on Africa because it is vital to know the common problems that are shared by other archives in Africa. The second part also looks at other issues that are drawn from this study's research objectives such as issues to do with policies. Furthermore, the literature that was reviewed in this study mainly consisted of journal articles, books and research reports.

2.2 Conceptual Framework

According to Imenda (2014), a conceptual or theoretical framework clearly shows the view from which the research problem will be formulated by a researcher, the manner in which the

investigation of the problem will be conducted, and what meaning they attach to the data accruing from such an investigation. By using concepts and theories, the researcher is assured of having more control of the direction, meaning and implications of his or her work (Cooper, 2008). Matangira (2016, p. 53) states that “A conceptual framework is an end result of bringing together a number of related concepts to explain a given event or give a broader understanding of the phenomenon of interest.”

This study was guided by the disaster management cycle which involves prevention, preparedness, response and the recovery of materials against disasters. Many archives aspire to avoid disasters but only a few adequately prepare themselves against disasters (Ngulube, Modisane & Mnkeni-Saurombe, 2011). Archivists accept to protect the material they accept into their repositories from disasters and their efforts in relation to acquisition, arrangement, description, and preserving archival materials may be destabilized if the archives are lost as a result of a disaster (Ngulube, 2005). According to Forde (as cited in Ngulube, Modisane & Mnkeni-Saurombe, 2011) “preparedness involves raising awareness throughout the whole institution, allocating responsibilities, training staff...and deciding on salvage priorities”. Strict measure should be put in order to remove any potential issues that can lead to a disaster.

When disaster strikes, it is important to have a quick response and reaction plan. A disaster, whether natural or man-made is unexpected and its consequences are very destructive hence through analysing their own situation and resources, and devising a disaster preparedness plans, information centres need to prepare themselves for any possible disasters (McIlwaine & Varlamoff, 2006). A discussion of the concepts that guided this study follows below:

2.3 Disaster management cycle

According to Ngulube (2003, p. 105), a disaster can be defined “as an unexpected occurrence inflicting widespread destruction and distress and having long-term adverse effects on the conduct of normal activities.” Alegbeleye (as cited in Ngulube, 2003) in the context of the information field defined it as an event that "results in the sudden removal of records and documents from accessibility and use". According to Millar (1999), organisations are not fully immune from emergencies or disasters, either caused naturally or caused by human action. Disasters in the archival environment can also include acid in paper content, pollutants, insects, flood, fire, earthquakes, humidity and rodents

In the management of disaster events and the effects they come with, the disaster management cycle has been a very important instrument, however, scholars and practitioners within the field still debate its origins hence leading to some confusion and partly the problem has been its history that’s been influenced by disciplines such as sociology, geography, psychology, civil defence, public administration and development studies (Coetzee & Van Niekerk, 2012). According to Neal (as cited in Coetzee & Van Niekerk, 2012) the phases of the disaster management cycle has seen studies and debates that go back as far as the 1930s. Neal further states that scholars and practitioners use the phases of disaster to understand their field of study as well as their response to disaster events more effectively.

According Baird (2010), the use of “prevention, preparation, response, and recovery” to help describe the emergency management is the result of work by the National Governors’ Association (NGA) in the late 1970s. A Subcommittee on Disaster Assistance was formed in 1977 in response to the lack of coordination of emergency management both at federal and state levels. The phases can therefore be divided into two parts which are pre-disaster and post-disaster. Prevention and preparedness fall under pre-disaster activities whilst the

response and recovery activities are concerned with the post-disaster activities (Wanying, 2015). Furthermore, literature has shown that in an organisation, writing a disaster management plan that is clear, flexible and easy to understand whilst allowing a speedy reaction in a disaster situation is a basis for the preparation phase of disaster management planning (Aitchison, 2004).

2.3.1 Prevention Phase

According to Aquilone (2017), the prevention phase seeks to mitigate the likelihood of a disaster or tries to reduce the negative impacts that come with a disaster hence disaster prevention creates measures that can be put into practice in order to prevent or reduce losses. Aquilone further states that, compared to the other three phases of the cycle, the prevention phase takes a long-term approach and aims to find a permanent solution to reduce risks. The main aim of prevention phase is to help with creating an economically secure, better built, socially stable, and more conducive environment. In addition, prevention can be said to be all the actions that are done in order to avoid any incident or the intervention to stop any incident from happening, this includes actions required to protect lives, property, applying intelligence and related information to activities that may include countermeasures such as increasing inspections, improving surveillance and security, investigating the full sources of threats (Baird, 2010).

In a study conducted by Hidayat and Egbu (2010), it was discovered that the prevention phase can be separated into two categories namely, structural and non-structural prevention. Hidayat and Egbu further explain that structural prevention mostly consists of engineering solutions while non-structural prevention deals with evacuation planning, insurance, legislation and land-use. During the implementation process of the prevention activities and programs, all stakeholders such as staff members are all involved in the process including the

organisations insurance company. This study will therefore investigate preventive measures at the University of Namibia archives.

2.3.2 Preparedness Phase

McIlwaine and Varlamoff (2006) states that the preparedness phase involves the drawing up of a disaster preparedness plan, shows the roles of the disaster response team, ensures that the plan is available to all including it being revised after a period of time, staff should be trained, it identifies the priority material for salvage, maintain and update documentation that supports the implementation of the plan including the establishment and maintenance of links with outside agencies and individuals, collect and maintain supplies of emergency equipment, arrange for immediate funding and also being able to recover and attend to users as soon as possible after a disaster.

According to Baird (2010), the preparedness activities are very important because the prevention measures cannot prevent disasters on their own hence in the preparedness phase, organisations and governments create plans that can save lives and reduce disaster damage. Aquilone (2017), states that preparedness is a capacity that needs to be achieved by planning and developing the right training that can lead to skills been acquired through on-field experiences. Furthermore, Coppola (as cited in Aquilone, 2017) suggests that preparedness actions should ensure the coverage of the empowerment of the whole organisation in order for them to help themselves and others by sharing skills to perform involving specialized actions, such as rescue activities. He argues further that these actions must raise awareness of possible disasters and their risks including the development of a warning systems that can be easily activated when there is a potential disaster. This study will therefore investigate the preparedness measures at the University of Namibia archives.

3.2.1.1 Training Staff

According to Ngulube, Modisane and Mnkeni-Saurombe (2011), the groundwork of the human response to disaster and raised awareness is brought about by training. They further state that well-trained and knowledgeable staff play a very vital role in real disaster situations for properly trained people are the most important elements of a disaster management strategy. Firstly, the main purpose for the staff training is to ensure that the staff know what to do and how to use their energies and adrenaline when there is a disaster, and secondly it allows the staff members to have a basic idea of what actions they should accomplish first in such a stressful time (Kahn, 2012).

In a study conducted by Ngulube (2003), it was found that the training of staff at all levels can help with the acquisition of knowledge and skills that are required in the preservation of records and archives. He further states that knowledgeable and skilled staff have a higher probability of spending scarce resources on projects that have the greatest impact on preservation needs hence the lack of knowledge and right skills can be costly to the preservation of documentary materials.

2.3.3 Response Phase

According to McIlwaine and Varlamoff (2006), there is a need to have a primary response and main disaster response that would raise an alarm and contact appropriate members of staff and appropriate emergency services in order to have them rescue staff members and also salvage the material. This phase provides employees with a list of resources to consult in the case of any disaster and its main essence is to make sure that the organisations records are safe under disastrous circumstances and also to make sure that the organisation gets back to normal business operations (Przybyla & Huth, 2004). Scholars such as Ngulube, Modisane and Mnkeni-Saurombe (2011), state that, in order to have effective response, planning should

be number one priority as it minimize danger to staff, damage to archival holdings, the building, and facilitating the continuity of operations.

Millar (1999), states that there should be selected staff members who will be assigned duties as part of emergency response teams. However, the number and style of teams as per organisation will depend on the size and scope of the organisation. She further states that regardless of the number of people available, it is the responsibilities of the team members that should be clearly defined and the members should be comfortable with their roles. Therefore, this study will investigate the measures taken in order to respond to disasters at the University of Namibia archives.

2.3.4 Recovery Phase

The recovery phase is an attempt to getting things back to normal by quickly attempting to re-establish some level of service to users, if necessary in alternative accommodation, as soon as possible. In addition, there should be professional advice retrieved from experts when it comes to the state of the building after the disaster, collections should continue being treated and the insurance companies must be negotiated with during this phase (McIlwaine & Varlamoff, 2006). A study conducted by Matthews, Smith and Knowles (2007) found that in most situations during the salvaging and recovery of items after a disaster, it is usually very problematic for those on the scene to carry out the rescue of material without conservation expertise. Matthews, Smith and Knowles further state that this problem comes about due to the shock that the staff members were in hence they were not really sure of what to do with the variety of material therefore they needed professional help from conservators. This study will therefore investigate the measures that the University of Namibia archives has employed in the recovery to disaster.

2.4 Challenges in Archival preservation in Africa

Preservation of archival material is meant to extend the life of materials for the longest timeframe possible because this allows the archives to be able to make the material accessible for longer periods. According to Jimerson (2007), archives do not only help with today's organizations legally and fiscally accountable to the community, they hold yesterday's leaders and institutions accountable, based on their morals and effectiveness. Furthermore, there are different varieties of archives such as government archives, academic archives and corporate archives which are designed to serve an organisation's needs (Schmidt, 2011). Though we have these different varieties of archives, they all play the same role which is to help historians, scholars and other individuals or organisations to understand the histories that have shaped them (Yale, 2015).

One such archive is the academic archives which has been playing an important role in the preservation of records of academic institutions in order for the institutions to grow and provide very quality education. According to Purcell (2012), academic archives have changed from the traditional academic archives which consisted of an on-campus unit called university archives which usually was housed in the academic library to an archive that can influence their campus, researchers, library and other archival peers. However, the deterioration of information resources has been established in literature as a worldwide problem due to how delicate print and electronic records are. Olatokun (2008) states that African information managers such as librarians, records managers and archivists have been facing problems of effective preservation.

Planning including conservation treatment and any prevention actions taken in order to make the environment suitable or reduce the amount of damage or loss that can occur on the material, are actions that come with preservation. Furthermore, in order to provide access without giving the client the physical material, preservation offers the archivists an option to

reformat the material. The lifespan of the material can easily be affected just by the way it is handled hence they should be maintained well (Ikegune, 2016). Roberts and Etherington (as cited in Ngulube, 2003) stated that, conservation is a field of knowledge that deals with the coordination and planning for the practical application of the techniques of binding, restoration, paper chemistry, and other material technology, as well as other knowledge that is relevant to the preservation of archival resources. In addition, conservation is both preventive and remedial whilst preventive conservation includes the indirect actions that are done on retard deteriorating material and the prevention of damage by introducing good conditions that are suitable for the preservation of materials (Ikegune, 2016).

Whilst the records are negatively affected by factors such as being handled by humans and nature, research has shown that the records are vulnerable to decay and damage by climatic and environmental factors (Njeze, 2012). In addition, the fact that traditional paper has an inbuilt decay factor, this has made it very challenging for archivists around the world to preserve their records. Though preservation can prolong the life of public records and archives as a management strategy, very little attention has been paid to the issue in sub-Saharan Africa (Ngulube, 2007).

African information managers such as records managers, archivists and librarians in different countries face a serious problem when it comes to delivering effective preservation and conservation on information materials in their holdings (Olatokun, 2008). A study conducted by Wamukoya and Mutula (as cited in Ogunniyi & Adejube, 2014) found that many African countries did not have a national information policy which makes the formulation of preservation and conservation policies in the libraries and information centres out of the question. Another study done in Kenya found that most conservation departments did not have a disaster control plan meaning that in the event of a disaster, these departments would

not be in a very good position to respond to the disaster with the urgency that is required due to the absence of such a plan.

According to Wamukoya and Mutula (as cited in Segaletsho & Mnjama, 2012), the main issues that contribute to the poor state of preservation of material in most institutions was poor funding, the equipment is either unsuitable or not available, conservators are inadequately trained, there is a lack of policies to guide preservation and the paper used is of poor quality including the ink used in the production of books and other information materials. In Botswana, a study was undertaken and it revealed that many information centres such as archives were not ready for any disasters be it manmade or natural disaster due to them not developing policies and procedures that were necessary in such situations (Hlabangaan & Mnjama, 2008).

Furthermore, literature has identified factors such as the absence of organisational plans, legislation, policies, budgets dedicated for records management, low knowledge of the importance of records management in fostering efficiency and accountability in organisations and the lack of proper supervision in handling records including the absence of poor security and confidentiality controls, poor records retention and disposal policies as the main challenges faced by the East and Southern Africa member countries in the capture and preservation of records (Olatokun, 2008).

The other challenge faced in Africa is the issue of having preservation policies. According to Foot (as cited in Ngulube, Modisane & Mnkeni-Saurombe, p. 244), preservation policies indicate “what needs to be preserved, why and for what purpose, and for how long”. He further states that, preservation policies are important because they bring about accountability as they reason to why some decisions are taken, how funds are spent and guides the development of preservation strategies and plans whilst being important costing and monitoring tool.

A study conducted in South Africa by Ngulube, Modisane and Mnkeni-Saurombe (2011), found that some archival institutions did not know how big or small their archival holdings were hence these institutions did not have any kind of preservation policies and that institutions with mission statements had a better chance of having preservation policies. In addition, Ngulube, Modisane and Mnkeni-Saurombe found that some institutions did not know how big or small their archival holdings were and this led to them not fully understanding the business that they were in due to not having a proper mission statement. This therefore led to the archival institutions not being confident of the purpose that they serve under as such circumstances did not allow them to possibly have a policy in their holdings.

Ngulube (2003) states that the creation of policies such as the preservation policy is very important when preserving records and archives. Preservation policies show the constraints that are faced and must be accepted by the organisation in order to save its records for the present and future generations. He further states that the fact that policies can outline explicitly the responsibilities of the archivists in the preservation of materials of different kinds, they are important because they guarantee access to information that is important for archives and records users, and for generations to come.

2.4.1 Preservation of Paper-Based Records

Overtime, the way in which information has been recorded has evolved. Previously, people used stone, metal, wood, clay and paper as the media for information storage (Iyishu, Nkanu & Ogar, 2013). According to Iyishu, Nkanu and Ogar (2013), human heritage written and found in archives, libraries, temples museum, monasteries and private collections, is made up of different types of cultural materials written with ink on bark, palm leaf, wooden tablets and traditional paper that later brings about a variety of challenges when trying to preserve them. Iyishu, Nkanu and Ogar (2013), further state that, the problems of preserving paper-based

information media heavily increased after the discovery of the fourdrinier machine in 1806, which was mainly created to meet the high demand for paper.

The high demand for paper led to the reduction in production of alkaline or ‘traditional’ paper, which had long-fibres, was more stable and durable, only to be replaced by modern mass production methods that are based on materials that has an inbuilt decay factor due to the extensive use of chemicals and machines (Iyishu, Nkanu & Ogar, 2013). In addition, the new way of producing paper on a larger scale led to paper being vulnerable to deterioration and decay, due to the chemicals that favoured deterioration and shortened the papers capability to bond together hence having weak paper that comes with preservation problems (Harvey, 1994). Furthermore, Foot (1994) states that the increase in the amount of pollution in the atmosphere has increased the rate at which chemicals are degrading paper, and the increase in the usage of the archives has increased the rate at which the material is degrading physically.

A study done by Sawant (2014), shows that there are two ways in which paper-based documents can be preserved. The first way is by preserving the material in its original format through the use of various techniques, like good handling and care, including having good quality protective storage such as cold storage for the conservation, restoration treatment and mass deacidification of selected materials. Secondly, preservation can also be done through reformatting the material into another format such as microfilming and digitization (Sawant, 2014). According to Chapman, Conway and Kenney (n.d.) a hybrid approach combining both ways can also be used for preservation of print materials same time. However, Scott (as cited in Sawant, 2014, p. 154) argues that, “preservation of a document in its original form, an enormously expensive and time-consuming proposition, may be reserved for those very few documents selected for their intrinsic value”.

A study conducted by Cunha, Poole and Walton (1977) found that there was an idea that had developed among some archivists that records managers, even when able to handle their work, were not eligible to manage the important aspect of preservation. Hence Cunha, Poole and Walton argue that it is not only the job of a professional conservator to care for the records because there are still some in house actions that can be carried out on the material such as providing optimum environment and storage conditions, cleaning and deacidification of some materials, and simple repairs like the encapsulation of material in polyester film.

The statement that it is not possible to establish cooperative conservation activities until there is a large number of professionally trained staff to start the work should not be accepted by archivists (Cunha, Poole & Walton, 1977). Cunha, Poole and Walton (1977), agree that this is the ideal solution, however, archivists must start small by providing tools, and equipment for there is a lot that can still be done at the lower level by trainees who are under the supervision of one skilled conservator or technician even attempting more sophisticated work.

2.4.2 Preservation of electronic-records

Lately, due to the advancement of technology that has introduced born digital records and digitized records, preservation specialists in the information community of libraries, archives, and museums have found ways of using digitization technology in order to enhance their techniques of reformatting. This has led to the specialists having to prepare themselves to face the challenges of preserving digital information (Conway, 2010). In as much as many information managers have tried to prolong the life of the material they house, other authors like Cloonan (2001) have argued that it is impossible to keep the material as it was when first created, called this state “The Paradox of Preservation”. He further stated that every time the material was conserved, preserved or restored, it was altered.

Purcell (2012) states that due to the advancement of technology, the world has seen the introduction of digital material and online tools that have made it easier to access archival

material. However, this has led to archivists and IT professionals to working together in order to have a harmonized way of properly preserving both digital material and the traditional material. The adoption of Information Communication Technologies (ICTs) has changed the way in which business is done and it has enhanced the manner in which information is being accessed, due to this, organisations are now able to store large amounts of information and can also have quick access to it (Keakopa, 2008). ICTs have allowed archivists, records managers and librarians to carry out their mandate of capturing, preserving and dissemination of information. According to Zazzau (2007), just as microforms were once new technologies, digitization has come along and is helping archivists preserve huge amounts of archival materials through scanning traditional paper and converting it into a digital format and also by allowing records to be born digital. In a study conducted by Hodge and Frangakis (2004) it was discovered that preservation and permanent access starts from outside the archive, it starts with the producer or the creator of the electronic resource. For this reason, the long-term of archiving and preservation begins with the creator of the records. Information that is Born digital information has a high chance of being lost if the creator is ignorant of the importance of preservation.

The area of long-time preservation of electronic information has had many different problems that still remain to be solved. According to Hodge (2005), these challenges have impacted the creation of the electronic documents, the acquisition of and policies surrounding the archiving of resources, preservation formats, preservation planning including issues of migration versus emulation, and long-term access to the archive's contents. In a study conducted by Asproth (2005) studies showed that issues at stake were a variety of types, covering hardware, software and formats. The electronic records created in large amounts, mostly require to be stored for active use, later demand for new mass storage media. Furthermore, there is a problem of fragility of the media which leads to low durability. In

addition, there is poor security that exists for many electronic files. Asproth further states that software also brings its own problems concerning the rapid development of new versions of the software product and in some instances the software is not always appropriate for the purpose hence the need for informational managers to liaise with IT managers.

2.5 Summary

The chapter illustrated what has been talked about preservation in other bodies of literature. This was done by giving the purpose of the literature review which was illustrated in two parts. The first part being the conceptual framework and the second part being the challenges faced in archival preservation in Africa. The chapter further elaborates more on the conceptual framework that guided the study of which this study was guided by the disaster management cycle which involves prevention, preparedness, response and the recovery of materials against disasters. The four (4) phases of the disaster management cycle bring about issues of facilities and tools; training, challenges and awareness of archives preservation at the University of Namibia of which these form the backbone of any records keeping practices as these issues can be seen to be part of the challenges that are faced in Africa during the preservation of material looking at specifically paper records and e-records. The chapter also raised awareness of the importance of disaster planning and having preservation policies and plans, standards involving preservation. The next chapter covers the methodology used in this study.

Chapter 3

Research Methodology

3.1 Introduction

This chapter covers the research methodology of the study. Jonker and Pennink (2010, p. 22), describe research methodology as “actions preparing regular activities, based on a set of premises, (theoretical) considerations and practical conditions, according to which the researcher structures the logic of his research given the question he wants to answer.” Furthermore, the researcher has to be able to give the actual reasons for this choice of a specific approach to the research and make choices that are sensible and based on the different requirements of a particular question (Jonker & Pennink, 2010). In other words, research methodology is the overall approach to research connected to the paradigm or theoretical framework and it therefore defines the actions done in order to get the answer to the research questions and how the research was conducted (Matangira, 2016).

In trying to give an in-depth understanding of the methods used to collect data during the course of the case study on the preservation of archival material at the University of Namibia Archives, this chapter covers the research design, data collection instruments involved in the study, population of the study, sampling techniques used, data analysis, ethical issues including the trustworthiness of the study. The chapter further goes on to end with a summary.

3.2 Research Design

According to Mouton (2001), Research design is a plan or blueprint of how you intend conducting the research, it is a plan on how the research will proceed on his study. Akhtar (2016, p. 68) states that “it can be considered as the structure of research it is the “Glue” that

holds all of the elements in a research project together, in short it is a plan of the proposed research work.”

This study’s research design was a case study with a qualitative research approach. Case study research allows the exploration and understanding of complex issues it gives the story behind the result by capturing what happened in real-life context (Yin, 1994). Researchers using a case study collect detailed information using a variety of data collections procedures. In addition, Matangira (2016, p. 95) explains that “a case study design is most useful when an individual case appears to produce new insights that might be transferred to a larger group of cases or activities.”

Qualitative research is characterised by its aims, which relate to the understanding of some aspects of social life, and its methods which create words, rather than numbers, as data for analysis (Bailey, 2007). Furthermore, a more comprehensive understanding of phenomenon can be highly attained and ensured from qualitative research which can therefore lead to having a smooth sail of different types of research procedures, thereby making the research as professional as possible, gaining maximum information with less expenditure of effort, time and money (Matangira, 2016, Akhtar, 2016).

3.3 Data collection methods

Data collection methods are used in order to obtain data from the respondents. The data collection methods used for this study involved observation and conducting of interviews with the staff of the UNAM Archives. According to data collection methods allow the researcher to collect information about their object of study (people, objects, phenomena) systematically and in the original setting in which they occur (Sani, 2013). Sani (2013) states that when collecting data, it is important that the researcher does this systematically because

the collecting of data haphazardly would make it very difficult for the researcher to answer the questions in a conclusive way.

The data collected mainly came from the staff members through face to-face interviews. The researcher used purposive sample for the staff members consisting of the head of archives and archivists to conduct interviews with the help of a semi structured interview guide as a research instrument and an observation checklist. Furthermore, the semi structured open-ended questions allowed the researcher to easily retrieve data from the views and opinions of the participants on the study and it also allowed the researcher to control the questioning.

Used both to give and receive information, semi-structured interviews are conducted with a fairly open framework, which allow for focused, conversational, two-way communication and they allow the researcher to understand the impressions or experiences of the participants (Keller & Conradin, 2018). According to Keller and Conradin (2018), this method of data collection allows the interviewer to prepare a set of questions beforehand, hence the interviewer can still have the opportunity to change the arrangement of the questions or the words used. Furthermore, explanations or omission of questions that appear redundant can also be done by the researcher in order to ensure a smooth and clear interview (Keller & Conradin, 2018). Though semi-structured interviews were time consuming, following the interview guide allowed both the interviewer and the participant to have a flexible interview that let the researcher to get full details and discuss issues. The face to face interviews allowed the researcher to gain more information and clarity on the responses from the participants hence getting an in-depth perspective on the processes and practices at the archives.

Through observation, the current status of a phenomenon is determined not only by asking but by observing and it is used in both basic and applied research in both qualitative and

quantitative research (Sani, 2013). This study made use of direct observation method which allowed the researcher to know the physical setting and also gave a deeper understanding of the on-going process. Furthermore, observation allowed the researcher to accumulate raw data about the preservation practices at the archives by monitoring the behaviour around the archives, the activities, and the context surrounding the activities and behaviour. Observations clearly showed the researcher what was practiced and what was not, what was available and what was missing. Carrying out physical investigations on the material and the direct observations gave the researcher an in-depth understanding of the available resources based on preservation at the archive.

3.4 Population

Population is a large collection of individuals or objects that is the main focus of a study, therefore it is the total number of people or units of interest; typically, there is not available data for almost all individuals in a population (Banerjee & Chaudhury, 2010). According to Burns and Grove (2003), population consists of elements that meet the criteria for inclusion in a study. The population of this study was the staff of the UNAM Archives.

3.5 Sample

Ideally a researcher would want to study the entire population. However, usually it is impossible or unfeasible to do this and therefore one must settle for a sample. The sample is a portion of elements taken from a population, which is considered to be representative of the population (Black & Champion, 1976). Population in some studies may be found to be small enough to have the researcher interact and include the entire population into the study.

Sampling is considered in both qualitative and quantitative research as the researcher gets to rely on a chosen number of people or items for examining and getting information. According to Kish (as cited in Ngulube, 2005, p. 129), “depending on the size of the

population and the purpose of the study a researcher may study the whole universe or subset of the population, which is referred to as a sample.” Furthermore, there are two main types of sampling techniques namely, probability sampling and nonprobability sampling and the researcher can adopt a sample drawn by allocating selection probabilities with each draw (Showkat & Parveen, 2017).

According to Showkat and Parveen (2017), probability sampling offers each sample an equal probability of being chosen and gives the probability that the sample chosen is representative of a population. It can therefore be said that a probability sample is one in which the elements of the population each have a known non-zero probability of being selected. On the other hand, unlike probability sampling method, this method uses nonrandomized methods to bring out the sample. It involves judgment and participants are selected due to them being easy to access hence it being a useful and convenient method of selecting a sample, the method is appropriate and the only method available in some cases (Showkat & Parveen, 2017).

The researcher used purposive sampling to select the staff members comprised of the head of archives and the archivists. Purposive sampling was used to select the experts because it allowed the researcher to choose staff members who were accountable for the archives and these participants understood the problem and the question that the study was raising. A sample of four (4) people was chosen to be the representatives of the population that manages the University of Namibia archives. Four (4) of the representatives included the head of archives and the remaining three (3) spots were taken up by the archivists.

3.6 Research Instruments

According to Wilkinson and Birmingham (2003, p. 3), “research instruments are simply devices for obtaining information relevant to your research project.” No single research instrument can be said to be better than the other as all of them can either be used right or

wrongly (Wilkinson & Birmingham, 2003). Research instruments each have their own weaknesses and strengths and using these instruments all depends on the circumstances of the research study.

This study used a semi structured interview guide as a research instrument. Questions for the participants were designed to get information on the preservation practices at the University of Namibia archives, focusing on their knowledge, actions, experiences, perceptions, and opinions. The semi-structured interview guide gave the researcher an option to formulate more questions for the study. In addition, it allowed the participants the freedom to express their views. The researcher also used an observation checklist as an instrument that helped gain direct information through listening and watching how things were done in the environment.

3.7 Trustworthiness of the study

Trustworthiness will support the argument that the researcher's findings are worth paying attention to as it covers issues of credibility, transferability, dependability and confirmability (Devault, 2018). Because qualitative research requires the researcher to take an active role in the collection and interpretation of data hence qualitative researchers must be good and trustworthy which raises the issue of reliability (Silverman, 2017). Ritchie (2014) states that reliability in research is concerned with the replicability of the research's findings and whether or not the findings would be repeated if another study would be done using the same method. Reliability is the degree to which measures are free from error and therefore yield consistent results.

The researcher ensured trustworthiness through triangulation. According to Onwuegbuzie and Leech (as cited in Anney, 2014) triangulation "involves the use of multiple and different methods, investigators, sources and theories to obtain corroborating evidence." Triangulation

helped the researcher reduce being biased and it crossed examined the integrity of the participants' responses by pre-testing the semi-structured interview guide through a pilot interview. The pre-test was done in order to make sure that the interview guide was clear and that the respondents clearly understood what was required of them.

In addition, spending some time in the research site allowed the researcher to immerse in the participants' environment and it helped the researcher have an in depth understanding of the context of the study. Furthermore, the time spent in the archives helped improve the trust of the respondents and provided a greater understanding of the environment. In order to eliminate any bias during the analysis and interpretation of the results, the researcher carried out a member check which allowed the researcher to send the analysed and interpreted data to the participants for them to verify the interpretation made by the researcher and offer suggestions of change in case they weren't happy with the current data or due to misinterpretations.

3.8 Procedure

According to Creswell (as cited in Matangira, 2016, p. 108) "researchers require permission to collect data from individuals and sites. Procedure refers to the steps taken to gain entry to the setting and to secure permission to study the participants or situation." In order to begin with the data collection, the researcher requested permission to enter and use the University of Namibia Archives for research from the Chief Librarian and it was communicated through the use of a letter that the researcher's supervisor provided. After permission was granted, this was followed by making appointments to meet specific individuals for interviews. The researcher further conducted interviews in the archives. In order to maintain the confidentiality of the participants during the research, the participants had the option of not giving the researcher their names as they had the choice to remain anonymous.

Through observation, the researcher went to the archives and observed the storage of material, the humidity level, the temperature, the level of ventilation, fire risk from equipment, electrical and gas supplies, quality of building, condition of water pipes, and security for this allowed the researcher to scrutinise the current practises. A phone was used to record all the interviews that were conducted with the permission of the respondents, and these were later listened to by the researcher at another time. During the interview, the researcher wrote down notes on some sections of the interview guide besides the recording. During the study, the participants were allowed to ask questions of clarity when they did not understand or did not know what was to be done.

3.9 Data analysis

According to Welman et al., (as cited in Matangira, 2016), data analysis involves the converting of notes into write-ups which should be intelligible products that can be read, edited for accuracy, commented on and analysed. It involves “creating categories, indexing or coding documents, sorting data to locate patterns, describing patterns, generating theories from data and validating these theories” (Blaikie, 2013, p. 26). The analysis of the qualitative data is an active and interactive process. The research outputs or products after data gathering in this study included hand-written notes, audiotape recordings, observation notes, interview transcripts.

Content analysis was used to analyse the data in this study. Miles, Huberman and Saldaña, (2013, p. 11) describe content analysis as “a form of analysis that sharpens, sorts, focuses, discards, and organises data in such a way that final “ conclusions can be drawn and verified.” Content analysis offered a subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns. In addition, the data was presented through descriptive narrative.

3.10 Summary

This chapter covered the methodology of the study clearly showing the methods that were used by the researcher during the entire research. In the form of a case study design, the study followed the qualitative research approach and the data collection methods used included interviews, observations and physical investigation conducted on the archival material. The population was the staff of the University of Namibia archives with a sample of 4 participants was drawn from the main campus. The participants were comprised of archives personnel of the archives.

The researcher applied in order to be granted permission to carry out the research at the archives. This permission granted allowed the researcher to interview, observe and also to have access to certain documents for physical investigation. Furthermore, the researcher made sure that the research was trustworthy through the use of triangulation, pre-testing, and member checking. The data collected was analysed through content analysis and due to the fact that the research involved people, the researcher also looked at the ethical issues which were handled through the use of a consent form after explanation of rights and intended use of research data. The next chapter presents the data presentation of the study.

Chapter 4

Data Presentation

4.1 Introduction

This chapter reports the results of this investigation by presenting the research data that was gathered through interviews, observations and physical investigation of the archival material in the UNAM Archives. The data's main focus is to shade more light on the investigations main objective which is; to investigate the preservation practices of the UNAM Archives. The second objective was to investigate the preservation methods that are in use, to investigate if there is a policy applied by the archives in the preservation of the archival materials, to find out the preservation needs, to discover the challenges if any are experienced by the archives in the preservation of its materials; and to come up with recommendations to enhance preservation of UNAM Archives.

According to In and Lee (2017), data that is presented inappropriately fails to clearly illustrate information to the readers and reviewers even in situations when this similar information is being illustrated in different ways of presentation hence it must be employed depending on the type of information that is to be emphasized. A method of presentation must be chosen after carefully weighing the advantages and disadvantages of different methods of presentation. In this study, the confidentiality of the participants is maintained by withholding their names and descriptive narrative is used to present the data with direct quotes from the participants used to give an in-depth understanding. Furthermore, the data collected was analysed through the use of content analysis.

Furthermore, this chapter is divided into sections based on the thematic areas which guided the researcher during the interview process and it also includes a section that highlights the

codes used to identify the participants in order to maintain the confidentiality of the participants. The codes that were used to refer to the interview participants were A, B, C and D. The presentation of data was based on the conceptual framework of prevention phase, preparedness phase, response phase, recovery phase as well as the thematic issues from the objectives. The subheadings are as follows:

- Participant of the study
- Disaster prevention
- Disaster preparedness
- Response to disaster
- Disaster recovery
- Disaster preparedness and management challenges

4.2 Participant of the study.

The research data was collected from the staff of the archives, the Head of archives who has been heading the Archives for 1 year and 10 months, One (1) Archivist who has been at the Archives for 10 months and from Two (2) archives assistants of which one has been working at the Archives for 13 years and the other has been there for 11 years. Apart from the Head of archives who mostly dealt with management issues, the Archivists were responsible for the evaluating, selecting, retrieving and arranging of materials. Furthermore, they also answered enquiries. The codes used for each of the 4 participants are listed in table 1 below.

Table 1: Details of the UNAM Archives staff participants

| Participants | Code |
|--------------------|------|
| Head of Archives | A |
| Archivist | B |
| Archives Assistant | C |
| Archives Assistant | D |

4.3 Disaster Prevention

4.3.1 Support from University Management

The researcher wanted to establish the measures that the archives took in trying to prevent the material from damage. Participant A therefore stated that firstly the archives did get huge amount of support from the University management be it through finances and the implementing of policies as management had noticed the importance of the archives. Furthermore, through the support rendered from management, participants B, C and D confirmed that the archives did get support from the University policy council which approved the policies from the archives.

4.3.2 Risk Assessment, Routine Maintenance, House Keeping and Security

The researcher asked if the archives conducted any risk assessments of the building in order to identify any external and internal threats that might cause problems to the collections and also if any routine maintenance was done. Participant A said “yes, as the archives has two stack rooms which needed to be checked regularly”. Participant A further went on to mention that it was through these activities that the archives was able to discover that there was a termite threat brewing in the floor of the archives hence an early interference through contacting a termite company to deal with the threat before it spread to the material.

According to participant A, all the activities involving risk assessment, routine maintenance, are all taken care of by the University's estate services department of which during the researcher's observation, the researcher witnessed the inspection of the treated building for any further termite infestation by a hired company and also the cleaning done with a use of a vacuum cleaner.

Concerning the question of the security of the material in order to preserve the material, participant B, C and D agreed to say that the archives and taken very good measures on the security of the material in order to enhance the preservation. Participant C pointed out that the place had lockable doors, alarm systems, smoke detectors, water sprinklers and also a knowledgeable staff that knows what it's doing. Participant C and D also went on to mention to the researcher that the archives also used technology facilities such as digitisation through scanning in order to help with the preservation of the material. However, though participant B agreed to say that the archives and a well-equipped security system, the stack rooms were not lockable and added that the archives has not undergone any alarming problem thus far. During the study, the researcher did observe that the material was properly secure even when the staff went out on a break, the place was securely locked.

In the stack rooms, participant A noted that the biggest advantage the archives had on ensuring that the material was secure was the use of compact shelving. "Compact shelving allowed the archives to have enough space and also protected the material from fire reaching it immediately during a disaster and it also protected the material from quick water damage as the water would not reach the material faster than the rescue team", participant A said. According to the researcher's observation, participant A's answers were in line with the researcher's observation. The researcher also observed that the storage facility was of high standard and the water pipes in the building weren't passing through the archives so there

was a slim chance of the water reaching the stack rooms unless if there was a very serious flood in the building.

4.3.3 Policies and Regulations

The researcher also investigated the existence of any policies and regulations found in the archives and participant A agreed saying that the archives did have a records management policy which is in line with the archives act 12 of 1992. This policy also made public via the internet and the researcher was able to read it further. However, the researcher found that the archives did not have a preservation policy in place. Participant B, stated that this was due to the fact that the University archives was mainly used as a record centre and less on the archives part though it did house archival material. The researcher observed that, in the reading room, the archives has rules printed out on a poster, however, the poster had fallen and the users could not really make out what was written on it.

4.4 Disaster Preparedness

4.4.1 Disaster management Plan

When asked if the archives had a disaster management plan in place, participant A said “No, there hasn’t been one created that I am aware of”. Furthermore, participant B also confirmed that, when it came to the disaster management plan, the archives didn’t not really have anything on paper to state how the institute would tackle any disaster faced.

4.4.2 Staff Training

The researcher asked if the participants had under gone any kind of training that allowed them to properly carry out their duties during emergencies or disasters. Participant A stated that they were no aware of any training that was conducted in order to help carry out their duties during emergencies or disasters. Furthermore, participant B said that “the only training I got was the general induction that everyone gets but it was not specifically for the

archivists.” According to participant C, there wasn’t any training that was done and all the training known to the participant was only acquired through personal study and training. However, for participant D, disaster management workshops used to be conducted some time back but were stopped due to some financial problems that have been faced lately.

4.4.3 Emergency Services Companies

Answering the question on whether there was any emergency services companies or organisations that offered services like refrigeration facilities in collaboration or in agreement with the archives in order to have them rescue staff members and also salvage the materials during emergencies or disasters, participant A stated that in case of emergencies or disasters at the University, an institution like the fire brigade was not really linked to the building as all these issues are dealt with by the estates services department. The archives only alerts the estates services and they contact the companies that do the job. However, the archives staff are in charge of checking to see if the companies contacted have the right equipment that is not a risk for the material being housed in the archives.

4.4.4 Installed Equipment for Disaster Prevention

The researcher wanted to find out if the building had functional equipment such as fire alarms, fire extinguishers and air conditioners to help with disaster prevention in the archives. Participant A said “the archives has a functioning air conditioner which has not given any problems.” The participant further stated that through the estate services, sprinklers were installed in the archives in order to help stop fire. However, according to participant B, the building has enough fire extinguishers, smoke detectors and alarms. In addition, because of the fear of having the material damaged from the water that comes out from the sprinklers, the stack rooms do not have any sprinklers installed but they have a special system that uses gas to stop the fire in the stack rooms by sucking out the oxygen from the rooms.

Participant C and D, were of the same idea saying that not only were the fire extinguishers enough but they were regularly checked too and the temperature in the archives was always kept at the required amounts. The researcher also observed that the air circulation and the light in the stack rooms was of good quality. The stack rooms were also safe from heavy UV rays as the material was not exposed to any direct sunlight.

4.4.5 Supplies and Tools

During a disaster, it is very important for an Archival institution to have a checklist of all the necessary supplies and tools such as buckets, mops, gloves and masks. Answering the question of if the archives had appropriate supplies and tools such as a first aid kit, rubber boots, garbage bags/plastic bags, buckets, sponges, mops/ buckets, storage containers and fans in readiness for a disaster, participant A said “the facility did have most of the supplies and tools in the office of the Librarian, however they did not have any supply of rubber boots.” Participant B, stated that the only equipment that was available at the time was a dust coat and a mask. Participant C stated that, because the archives was under the supervision of the library, the first aid kit was stored in the office of the Librarian but apart from the dust masks and gloves, rubber boots, garbage bags and buckets were not available.

4.4.6 Disaster

Answering the question on whether there was any disaster at the archives, participant A said “there hasn’t been a disaster but there has been an emergency in the form of water pipes bursting on the top floor 2 years ago, however, the water didn’t damage any of the archival material.” The other emergency was the termite infestation in 2018 that was found on time and it too did not cause any harm to the material due to quick intervention. However, participant C said that the water emergency did not cause much harm because of the quick response but the water did reach the archives and affected a bit of some material in the reading room.

Furthermore, the researcher wanted to find out if the archives was prepared at the time the emergencies occurred. Participant A said yes, as the estate services that is in charge of taking care of such problems is always on stand by and there is an office representative who is on stand by for anything that could happen. Participant C, responded by saying that “the emergency from the water burst was dealt with in house and the University management reacted quickly.”

4.4.7 User Sensitization

The researcher wanted to find out if the users too were educated on how to handle the material in the archives. Participant B, responded by saying that the users were given guidelines and rules on how to use the material whilst being under supervision from the Archivists.

4.5 Response to Disasters

The researcher wanted to find out if the archives had any person designated to raise the alarm during emergencies or disasters. Participant A said “the estate services was always the first department to be contacted by an office representative that was appointed by the management”. estate service is always on stand by and everyone is always on alert including the Library management of which the Head of archives is a member of. Furthermore, the researcher wanted to find out how the archives responded to the emergencies that occurred. Participant A said that for the termite infestation, “the archives and the estate services sat down and choose a company to get rid of the termites” and the material in the reading room that was affected by the water pipe burst was just air dried according to participant C.

4.6 Disaster Recovery

4.6.1 Capability of Staff

The researcher wanted to establish if the archives had staff members that were able to help with recovery after a disaster. Participant A mentioned that, the staff was knowledgeable enough to carry out their duties after a disaster. Participant A, further stated that with the help of the estate services and looking at the size of the building, the staff is capable of recovering fully after a disaster.

4.6.2 Alternative Accommodation

The researcher tried to find out if the archives had any alternative accommodation for the collections in cases of a disaster. Participant B, stated that due to the fact that the archives did not have a disaster management plan, the archives does not have a place to which the material can be taken specifically, however, the University was big enough and management would find a place to house the material. Participant D, mentioned that as for now the archives didn't have any alternative space due to the financial constraints that the University management was facing.

4.6.3 Recovery After Emergency or Disaster

The researcher wanted to find out how the University archives recovered from the emergency they faced. Participant D, mentioned that after the emergency from the water pipe burst, the pipes in the building were all checked and fixed. Participant A, stated that the archives was installed with water sprinklers and smoke detectors in order not to be caught unawares. After the termite scare, the whole building was treated and the infestation was stopped.

4.7 Disaster preparedness challenges

The researcher wanted to find out if the participants had any other challenges that they thought were really pressing and participant A said that “the biggest challenge was the lack of a disaster management plan and also the fact that the archives has not been able to under go training on disaster management”. Furthermore, participant A raised an issue of having a challenge when it came to finding companies that deal with pests such as the Termites. Participant D emphasized on the financial constraints as being a major challenge as this made it difficult for the archives to continue having workshops that would help educate the archivists on more preservation practices and also the fact that the archives was still under the library. The participant stated that it would have been easier for the archives to be separate from the library in order to make quick and independent decisions.

4.8 Summary

This chapter presented the research data that was gathered from the data collection exercise of this study in order to reach the main objective of establishing the preservation of Archival material at the University of Namibia archives. The researcher found that the archives was fully supported by the Universty management when it came to finiances and the approving of policies. The archives had good security protecting the material from external or internal damage and also carried out routine maintaince, risk assessment, adequate house-keeping on the building regularly. Furthermore, the archives did have a governing policy which is the records management policy and is in line with the Archives act 12 of 1992 of Namibia. The researcher found that this policy was also made available to the public via the internet. The study also found that in terms of disaster prepadness, the archives did not have any disaster management policy in place and one of the biggest challenge was that the staff did not under go any training in readiness for a disaster. However, most of the supplies and tools such as

buckets, mops and gumboots were not readily available to the staff but through the estates services department, all of the archives problems concerning emergencies and response were fully taken care of with the expertise of the archivists being utilised when it came to proper recommendations and reactions. The equipment used for disaster prevention was also up to standard and was also checked upon regularly for maintainace.

The researcher found that archives had faced a small water disaster that was caused by a water pipe burst from another section in the building but it didn't affect anything in the stack rooms. Another minor problem faced was a termite infestation but it was quickly discovered due to the regular check ups on the building. In terms of recovery after a disaster, the study found that the archives didn't have any alternative place to house the material incase of a disaster and the staff members were slightly able to deal with it but needed furthure training and suppiles plus tools. Finally, the researcher found that the biggest challenges that the archives faced were the lack of a disaster management and training on disaster management. Participants also raised the issue of not being able to easily find companies that dealt with pests such as the Termites and also the cry to separate from the library in order to make quick and independent decisions. The next chapter discusses the research findings.

Chapter 5

Discussion of Findings, Summary, Conclusions and Recommendations

5.1 Introduction

This chapter discusses and interprets the research data presented in Chapter 4. The main reason of having a chapter that is devoted to the discussion of the research data is to have the interpretations and opinions of the researcher, to give an in-depth understanding of the effects of the researcher's findings, and also to give recommendations that can help the field in the future. According to Evans, Gruba and Zobel (2011), the discussion answers the questions or enlightens more on the objectives that were presented in the introduction, with a further explanation on how the results found support the answers and, how the answers are in line with the already existing literature on the topic.

As it can be seen in chapter 1 section 1.4, the main research objective of this study was to investigate the preservation practices of the UNAM Archives with sub objectives that comprised of investigating the preservation methods that are in use, to investigate if there was a policy applied by the archives in the preservation of the archival materials, to find out the preservation needs of the, to discover the challenges if any were experienced by the archives in the preservation of its materials; and also to come up with recommendations that can enhance the preservation of the material housed in the UNAM Archives. The sections of this chapter are organised according to the conceptual framework of prevention phase, preparedness phase, response phase, recovery phase as well as the thematic issues from the objectives then followed by the conclusion. Furthermore, the chapter will conclude with recommendations to the study and as well as recommendations. The subheadings are as follows:

- Participant of the study
- Disaster prevention
- Disaster preparedness
- Response to disaster
- Disaster recovery
- Disaster preparedness and management

5.2 Disaster Prevention

Prevention of disasters is very vital in the preservation of archival material. This phase of the disaster management cycle seeks to mitigate the chances of having any disaster and also reduces the negative impacts that come along with a disaster hence disaster prevention creates measures that can be put into practice in order to prevent or reduce losses. According to Hidayat and Egbu (2010), the activities and programs in the prevention phase involve all stakeholders such as staff members and the organisations insurance company in the process. According to Baird (2010), prevention is any action done in order to avoid any incident or the intervention to stop any incident from happening, this includes actions required to protect lives, property, applying intelligence and related information to activities that may include countermeasures such as increasing inspections, improving surveillance and security. The main aim of the prevention phase is to help with creating an economically secure, better built, socially stable, and more conducive environment.

5.2.1 Support from University Management

According to Wamukoya and Mutula (as cited in Segaletsho & Mnjama, 2012), some of the main issues that contribute to the poor state of preservation of material in most institutions was poor funding from management, equipment that is either unsuitable or not available when needed and also the lack of preservation policies. The study found that the UNAM

Archives did get huge amount of support from the University management be it through finances and also through the implementing of policies as management had noticed the importance of the archives. Through the support from the university council, the archives was able to set out goals that were to be achieved as well as guidelines for implementing them.

According to Ngulube (2003), the creation of preservation policies is a very important step in the preservation of records and archives as it helps remind the creators of the limitations they must all accept if important records are to be saved for present and future generations. However, the issues to do with the creation of preservation policies has been an area that has been neglected in most institutes. It is important to have the support from management when implementing policies because this allows the policies approved and accepted by the organisation. Furthermore, policies are important because they clearly give an explicit outline of the responsibilities of the archivists for the presevation of different types of archival material in order to make sure that the access to the infonnation they contain is ganranteed, both for the current generation of archives and records users, and also for generations to come (Ngulube, 2003).

5.2.2 Risk Assessment, Routine Maintenance, House Keeping and Security

Providing the right environment is the single most important factor in a successful preservation process. In Africa most of the libraries and archives were in deplorable states due to their lack of functioning air-conditioners and their luck of interest when it came to the issue of housekeeping tasks such as cleaning, shelving and dusting (Ishola, 2017). The study at the UNAM Archives showed that the archives did carry out routine maintainaces and risk assessments in and out of the building. The two stack rooms were regularly checked by staff members to see if there were any threats to the material. These routine checkups conducted

helped the archive detect a termite threat that was brewing in the floor of the archives . With the help of the estate services department that is incharge of such threats, this early interference led to the contacting of a termite company to deal with the threat before it spread to the material. The Archivists work hand in hand with the estate services department because they are incharge of tackling all emergencies that arise and this is done with the advice coming from the Archivists.

The findings revealed that the housekeeping in the archives was done by a hired company with the use of a vacuum cleaner. Apart from making available favourable environmental conditions, suitable buildings and equipment, the preservation strategy should include the instructing of staff members and the public alike on the necessity of good housekeeping (Ngulube, 2003). Furthermore, security is vital to the preservation and protection of archival materials as it protects the items against theft, deliberate, unintentional damage and destruction (Ngulube, 2003). Concerning security, the findings revealed that the archive was secure as it has compact shelving which allows the archives to have enough space and also protect the material from any fire reaching it immediately. Security breaches can occur from anywhere but the findings revealed that the archives was well equipt as it had lockable doors, alarm systems, smoke detectors, water sprinklers and also a knowledgeable staff that knows what it's doing. However, the findings did show one drawback which was the unlockable stackrooms. This made the place a bit unsecure due to the fact that someone could easily access the material in there.

According to Ngulube (2003), at the lowest level, the cleaner must also be given a chance to understand that sweeping, cleaning and dusting records and archives storage places greatly helps with the preservation efforts. Any incident that happens in the archives be it an emergency or disaster in any part of the building may impact the whole building and can also cause injury, death loss or damage in collections or the destruction of the building. Therefore,

it is important to carry out routine maintenance, house keeping and also risk assessment. A study conducted in Tanzania by Sekiete (as cited in Segatsho, (2014) observed that most libraries and archives in Tanzania were challenged by different issues including irrelevant building structures and maintenance. He further states that there were no specific cleaning strategies put in place, but the Conservator was in charge of the housekeeping as he or she organised workshops on cleaning procedures to the staff and also outsourced a cleaning company to help with the cleaning.

5.2.3 Policies and Regulations

Segatsho and Mnjama (2012), raise a serious question of what the extent at which the policies were implemented was. Literature consulted indicated that some institutions had policies in place but these policies were not critically followed or implemented. The findings of this study revealed that the archives did have rules printed out on a poster in the reading room, however, the poster had fallen and the users could not really make out what was written on it. Furthermore, the archives operated under a records management policy which is in line with the Archives act 12 of 1992. However, the UNAM Archives did not have a preservation policy in place and the lack of preservation policy is problematic because it hindered effective preservation management (Ngulube, 2007). According to Segatsho(2014), despite the policy clearly showing that pens should not be used during access to collections, customers were still using pens in the reading rooms.

5.3 Disaster Preparedness

According to Fox (as cited in Ngulube & Magazi, 2013. p. 190), “preparedness in the field of information management is ‘a natural part of responsible custody’”.

5.3.1 Disaster management Plan

Disaster planning has the possibility of facilitating efficient reaction and speedy recovery in the event of an emergency". Disaster planning allows the organisation to quickly respond and efficiently respond to any emergency, therefore, reducing the danger to staff and the damage that could be done to the archival holdings and the building. The findings to this study revealed that the UNAM Archives staff were not aware of any disaster management plan in place and they didn't not have anything on paper to guide them on how to tackle any disaster that they would face. This finding confirms with the literature that says that despite the disaster plans proving to be of great importance in the preservation of archival material, many institutions did not seem to take the matter seriously (Ngulube, 2003).

A study conducted by Ngulube and Magazi (2013) revealed that, the increased concern with disaster management in general led the government to pass the Disaster Management Act of 2002. However, they further state that the number of information centers with disaster management plans was very low and this was of great concern. Though there is an ever-present danger that disasters may endanger buildings and holdings at anytime, disaster preparedness through the creation of disaster management plans in records and archives did not form a significant part of the preservation activities of archival institutions in some parts of Africa (Ngulube, 2007).

5.3.2 Staff Training

When disaster strikes, the manner in which the leaders and staff members react all depends on knowledge and decisiveness they have. However, in the periods before the knowledge and decisiveness comes into play during a disaster and after a disaster, these leaders and staff members are informed in places such as conference rooms, training opportunities, and sharing of resources that their regional organizations provide (Long, 2011). The research

findings showed that training of staff members was done in previous years, however, due to the financial constraints that the university was facing, the archives had not been able to carry out any of these activities anymore. The only training that some staff members of the archives received was the general induction that everyone gets but it was not specifically for the archivists of which this is not in accordance to Chisholm (2015) who states that proper training should be given to everyone who may potentially interact with the material.

Staff members should be trained on the use of disaster control equipment like water sprinkling system, firefighting equipment, including raising awareness on the need to protect the material from disaster and that steps should be taken in order to minimize damage (Echezona, Ugwu & Ozioko, 2010). These training programs are important because they give the staff members a chance to efficiently carry out preservation procedures during an emergency, even in times when there is no one from the outside to offer assistance immediately available.

5.3.3 Emergency Services Companies

Another aspect that information centers should consider in order to be fully prepared is the contact with and cooperation with the emergency services around such as the fire brigade and the police (Morgan & Smith, 2014). Evidence gathered in this study confirmed that the institutions building was not linked to the fire brigade, however, all these issues to do with emergencies were dealt with by the estates services department. The archives alerted the estates services and they contacted the companies that were capable of doing the job. Furthermore, the archives staff worked hand in hand with the estate services as they still needed to give professional advice and also to see if the companies contacted had the right equipment that is not a risk for the material being housed in the archives.

According to Morgan and Smith (2014), in South Africa, only 17% of information centers such as libraries had informal arrangements with emergency services to assist in the event of a disaster, and 42% had no disaster plans at all. They further argue that though informal disaster plans are better than nothing at all, they are still not up to standard. Formal disaster plans are there to make sure that staff members are very much aware of the potential dangers, and that they get acquainted to the routine emergency procedures, such as evacuation drills.

5.3.4 Installed Equipment for Disaster Prevention

Functional facilities such as fire extinguishers, security alarms and air conditioner should be available in the building and should be regularly inspected in order to ensure that they are in good working order. The research findings revealed that the UNAM Archives had adequate equipment to help prevent a disaster. The equipment ranged from the installation of a functioning air conditioner which did not give any problems. The estate services department at the institution, installed sprinkler in the archives in order to help stop the spread of fire and the building had enough fire extinguishers that were replaced when need be, smoke detectors and alarms systems were also part of the installed package in the archives.

In addition, because of the fear of having the material damaged from the water that comes out from the sprinklers, the stack rooms did not have any sprinklers installed but what they have is a special system that uses gas to stop the fire in the stack rooms by sucking out the oxygen from the rooms. The non-existence of these essential equipments poses a risk not only to the material but also to the lives around. A study conducted by Ayoung, Boatbil and Baada (2016) found that the most probable disaster that occurred in any of the institutions under study was fire.

They further state that when staff members were asked to show the level of preparedness of their information center to detect and mitigate any disaster. Two of the information centers

had installed smoke detectors, and another two had fire alarms installed including fire extinguishers placed in prominent positions. However, none of these information centers had any fire blankets or water sprinklers installed and the staff members did not know when last the equipment installed was last serviced. In addition, some of the information centers did not have clearly marked emergency exits or designated assembly points outside the premises.

5.3.5 Supplies and Tools

Another important aspect of preparedness in any information center is the availability of disaster supplies and tools, which should be placed in strategic places and always be ready and available for use. However, the findings of the study revealed that the facility did not have a full supply of the tools in the disaster box. The Librarian did have a first aid kit in his office but this is was not adequate and they did not have any supply of rubber boots hence the institute was lacking on supplies.

The contents of a disaster box should consist of supplies such as plastic sheeting; buckets; absorbent mops; large rubbish bins; large garbage bags; soft cloths; plastic crates for transportation;torches; sponges; wax paper; dust-cloths. The location of supplies such as disaster boxes, materials required for securing, packing and also the crating of damaged materials should be clear in order easily transport the material to the recovery section, or to external facilities (Morgan & Smith, 2014).

5.3.6 User Sensitization

It can be argued that humankind is the greatest enemies of the materials on which they record their information as they are the major factors that promote the conditions that elevate or retard the deterioration of documentaly materials, therefore, there is a need to sensitize the user on how to handle the material that they access at the archives (Ngulube, 2003). The findings of the study revealed that the users were given guidelines and rules on how to use

the material whilst being under supervision from the Archivists. According to Ngulube (2003), other than providing favourable environmental conditions, suitable buildings and equipment, it is important to have a preservation strategy that includes instructing staff and public alike on the careful handling of original materials.

5.4 Response to Disasters

It is very important for the members of staff and also their users to know exactly what to do when a disaster strikes. This would make sure that there are no issues of stampedes and confusion when a disaster strikes. Furthermore, it can also help prevent or reduce the loss of lives. The findings of the study revealed that estate services was always the first department to be contacted by an office representative that was appointed by both library and archives management. Furthermore, staff members did not reveal much on how they were ready to respond but they gave a lot of praise on the quick response from the estate services department. However, due to the lack of training and simulation tests, there was no way possible to estimate the staff members and users response rates and reaction to any emergency.

In addition, the findings revealed that there hasn't been a major disaster but there has been an emergency in the form of water pipes bursting on the top floor 2 years ago and also a termite infestation, however, the water and the pests didn't damage any of the archival material due to quick intervention from the estate services and the office representative that is in charge of taking care of such developments and is always on stand by just in case anything happened. The study showed the importance of drawing up a disaster plan with a list of team members with their home telephone numbers including a leader (Morgan & Smith, 2014).

A study conducted by Ngulube and Magazi (2013) revealed that most information centers in their study did not have a well detailed list of procedures that were to be followed if there was

a case of a disaster and 42.9% of these centers did not know of their response policy in the event of a disaster. One can therefore conclude that their disaster plans did not adequately provide for efficient response to any emergency or disaster.

5.5 Disaster Recovery

Recovery phase is aimed at re-establishing the normal working conditions and to resume service to the users as fast as possible.

5.5.1 Capability of Staff

After a disaster, staff members who would have been involved in the disaster recovery phase share their experiences at this stage, and this information provided helps the organisation gauge the effectiveness of its disaster plan but before this, staff members are supposed to be capable of going through the whole process of recovery (Ngulube & Magazi, 2013). The findings revealed that the staff members of the archives were knowledgeable enough to carry out their duties after a disaster due to some of the training and reading they did on their own. Furthermore, the help from the estate services and also the size of the building made it easier for the staff to be able to recover fully after a disaster. A study conducted by Ishola (2017) found that due to the lack of training, staff members with regards to disaster management were a negative influence on the preservation practice and this was terrifying because this meant that some information centers did not have capable staff members to help with the quick recovery of their institutes.

5.5.2 Alternative Accommodation

The findings revealed that due to the fact that the archives did not have a disaster management plan, the archives did not have a place in which the material could be taken specifically, however, the University was big enough and management could find a place to house the material in case of a disaster or emergency. This case shows exactly why the

literature says that it is important to plan in advance in order to recover fully and deliver the organisations mandate to clients should any disaster occur (Ayoung, Boatbil & Baada, 2016).

5.5.3 Recovery After Emergency or Disaster

Recovery can be in some cases be a very expensive process as it includes decisions and actions that are taken immediately after a disaster with a view to restore or improve the pre-disaster working conditions, while encouraging and facilitating necessary adjustments to reduce disaster risk (Lin Moe & Pathranarakul, 2006). The findings of the study revealed that the archives had an emergency that was caused by a water pipe burst and also infestation by termites. However, management reacted swiftly and had the whole building treated of the termites and all the pipes in the building checked and fixed. In addition, the building was installed with water sprinklers and smoke detectors because every effort should therefore be made in order to prevent a disaster from ever occurring (Morgan & Smith, 2014).

5.6 Disaster Preparedness Challenges

A few challenges were revealed from the staff members. One of the biggest challenges mentioned was the lack of a disaster management plan and also the fact that the archivists had not been able to under go training on disaster management of which the training of staff and user was one of the most important preventive measures in the preservation of archival materials. According to Ngulube (2003.p. 106), “The goal of preservation education programmes should be to build awareness within the archival user community of the fragile, irreplaceable nature of archival holdings, and to teach and encourage improved care and handling practices.”

A study conducted by Ngulube (2003) revealed that most archivists usually depended entirely on the commercial company's good will and expertise when it came to dealing with pest management. However, though this is also the situation at the UNAM Archives, the findings

in this study revealed that the archivists found it to be a challenge when it came to finding companies that deal with pests such as termites, therefore, making it tough to get rid of pests on time. In addition, members of staff revealed that the financial constraints were a major challenge as this made it difficult for the archivists to continue having workshops that would help educate them on more preservation practices. Furthermore, it was revealed that it would have been easier for the archives to make quick and independent decisions if it was separate from the library.

5.7 Summary of the Findings

This section summarises the findings presented in the following headings according to the thematic issues.

5.7.1 Disaster Prevention

The UNAM Archives did get support from the University management be it through finances and also through the implementing of policies. The archives carried out routine maintenance, risk assessments and housekeeping which was done in the building by a hired company. Furthermore, the archivists worked with the estate services department in order to tackle all emergencies that would arise and the security of the material was assured through the use of compact shelving, lockable doors, alarm systems, smoke detectors, water sprinklers and also a knowledgeable staff. User regulation in the reading room was done through the use of rules printed out on a poster. In addition, the archives operated under a records management policy which is in line with the Archives act 12 of 1992. However, there is a lack of a preservation policy which is problematic because it hinders effective preservation management.

5.7.2 Disaster Preparedness

In terms of being prepared, the UNAM Archives staff were not aware of any disaster management plan in place and the training of staff members was halted due to the financial

constraints that the university was facing. Furthermore, the building was not linked to the fire brigade but all emergencies were dealt with by the estates services department which was in charge of the installation the air conditioners, sprinklers, enough fire extinguishers, smoke detectors and alarms systems. Besides this, the stack rooms are fitted in with a special system that uses gas to stop the fire instead of water. However, the facility did not have a full supply of the tools in the disaster box but just a first aid kit in the office of the librarian. In addition, the users were given guidelines and rules on how to use the material whilst being under supervision from the archivists because other than providing favourable environmental conditions, suitable buildings and equipment, it is important to have a preservation strategy that includes instructing staff and public alike on the careful handling of original materials.

5.7.3 Response to Disasters

The estate services were always the first department to be contacted by an office representative appointed by both library and archives management in response to an emergency or disaster. However, staff members did not reveal much on how they were ready to respond to an emergency of which this could have been because of the lack of training and simulation tests but they gave a lot of praise on the quick response from the estate services department.

5.7.4 Disaster Recovery

Staff members of the archives were knowledgeable enough to carry out their duties after a disaster due to some of the training and reading they acquired on their own. This recovery would also be possible because of the help that would come from the estate services hence it being easier for the staff to recover fully after a disaster. However, due to the fact that the archives did not have a disaster management plan, the archives did not have an alternative place in which the material could be housed in case of a disaster, however, the University was

big enough and management could find a place to house the material. Furthermore, the archives had an emergency that was caused by a water pipe burst and an infestation by termites. However, management reacted swiftly and the situation was dealt with by treating the whole building and fixing the pipes in the building. In addition, the building was installed with water sprinklers and smoke detectors because every effort should therefore be made in order to prevent a disaster from ever occurring.

5.7.5 Disaster Preparedness and management challenges

A few challenges were revealed from the staff members. One of the biggest challenges mentioned was the lack of a disaster management plan and also the fact that the archivists had not been able to undergo training on disaster management. Furthermore, the archivists found it challenging when it came to finding companies that dealt with pests such as termites, therefore, making it tough to get rid of pests on time. In addition, members of staff revealed that the financial constraints were a major challenge as this made it difficult for the archivists to continue having workshops that would help educate them on more preservation practices. It was also revealed that it would have been easier for the archives to make quick and independent decisions if it was separate from the library.

5.8 Conclusions

This section shows how the objectives have been met by the study conducted. The research objectives were: To investigate the preservation practices of the UNAM Archives, to investigate the preservation methods that are in use at the UNAM Archives, to investigate if there is a policy applied by the archives in the preservation of the archival materials, to find out the preservation needs of the UNAM Archives and to discover the challenges if any were experienced by the UNAM Archives in the preservation of its materials.

5.8.1 Investigate the preservation practices at the UNAM Archives

The archives had a good and supportive management that supported its policies and also finances. Furthermore, the building under went a regular risk assessment, routine maintenance and also good house keeping. However, in case of a disaster, the staff didn't get regular training on how to behave and salvage the material.

5.8.2 To investigate the preservation methods that are in use at the UNAM Archives

In trying to preserve the material housed in the archives, the management has invested in working air conditioners to help maintain the temperature in the building, installation of water sprinklers, enough fire extinguishers, smoke detectors, lockable doors, an alarm system and a special system that uses gas to stop fire in the stack rooms. Furthermore, the users are also given rules on how to behave in the reading room as they handle the material. However, the lack of a full disaster box is a drawback, as this can lead to the members of staff not being efficient and effective in times of a disaster. In addition, the archives hasn't started using technology through means such as scanning to preserve its material.

5.8.3 To investigate if there is a policy applied by the archives in the preservation of the archival materials

The only policy that the archives had was its governing policy which is the records management policy and is in line with the Archives act 12 of 1992 of Namibia. However, in terms of disaster preparedness, the archives did not have any disaster management policy in place and this was a challenge.

5.8.4 To find out the preservation needs of the UNAM Archives

In order to be able to preserve the material in the archives, there is a need to have a full fledged disaster management policy in place and also to have workshops for the members of staff in order for them to have training in readiness for any disaster. Furthermore, there is a need to separate the archive from the library so that the archives management can make its own independent decisions.

5.8.5 Discover the challenges if any were experienced by the UNAM Archives in the preservation of its materials

One of the biggest challenges mentioned was the lack of a disaster management plan, the lack of training on disaster management and also the difficulties in finding appropriate companies to help with the pest management.

5.9 Recommendations

Adequate preservation of archival material involves the correct handling, use, storage and display of materials. Therefore, based on the study, the following recommendations can be drawn:

1. A good disaster management policy should be formulated by management as soon as possible.
2. Management should regularly ensure that the staff members are trained on preservation and disaster management so that they are always prepared and ready for anything at anytime.
3. There should be enough finances allocated in the budget allocation for staff training.
4. Serious consideration should be given to obtaining a disaster box in order to have all the supplies and tools.

5.10 Suggestions for further studies

This research leads to some findings that maybe of some interest to future researchers, therefore, a further study can be done on the response phase. To find out how the poor partnership between archives and response companies like the fire brigade affects the preservation of archival material.

5.11 Final Conclusion

The research centred on investigating the preservation practices at the University of Namibia archives. The study showed that education and the adoption of prevention measures can considerably help with the eradication of the damage that can be caused by natural or man made disasters. The study is significant in that the findings could assist in the development of a disaster management policy as well as contribute to body of knowledge on the subject of disaster management in academic archives. In addition, the methodology involved the use of qualitative research approach, members of staff interviews and observation for data collection. The population of the study consisted of 4 members of staff at the archives in Windhoek.

The research findings give a very informative account that the Archives does not have any written disaster management policy, as well as inadequate funding due to the financial constraints that have led to the archives to not be able to carry out any staff member training. However, the Archives does have prepared staff members who have gone ahead to train themselves and read more on how to preserve the material in case of any disaster. Furthermore, the Archives has equipped itself well with lockable doors, alarm systems, smoke detectors, water sprinklers in order to be prepared for any disaster that may come along in the near future.

It is very important to note that mankind will never reach a point when his or her knowledge about a subject will ever be known completely (Leedy, 1997). The preservation of archival material with a main focus on disaster management has remained a burning subject at many meetings ranging from national to international organisations. The fact that the subject is still being discussed in highend meetings is a clear indication that the problem has remained unsolved.

However, the appreciation of the value of the archival function at the UNAM Archives by management has lead to the growth of the preservation of the academic archives material, as one can see from the study findings. In addition a well thought-out preservation policy, that is designed with the needs and resources of the institution in mind, would clearly help prolong the important life of the frequently used material and therefore allow the archives to make a better use of its resources. Archives are unique, therefore once they are deemed unreadable because of improper preservation measures, the university would have lost its invaluable and irreplaceable memory collected over the years.

6. References

- Aitchison, K. (2004). *Disaster management planning for archaeological archives*. Reading, England: Institute of Field Archaeologists.
- Akhtar, I. (2016). Research design. *SSRN Electronic Journal*, 1, 68-84. doi: 10.2139/ssrn.2862445.
- Anney, V. (2014). Ensuring the quality of the findings of qualitative research: Looking at trustworthiness criteria. *Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS)*, 5(2), 272-281.
- Asproth, V. (2005). Information technology challenges for long-term preservation of electronic information. *International Journal of Public Information Systems*, 1(1), 1-11.
- Aquilone, M. (2017). *Disaster management: A review on the role of project management in disaster management* (Undergraduate report). Zurich University of Applied Sciences.
- Ayoung, A., Boatbil, C., & Baada, F. (2016). Disaster preparedness of libraries. *Information Development*, 32(5), 1296-1305. doi: 10.1177/0266666915588794.
- Baird, M. (2010). *The "phases" of emergency management*. Memphis: University of Memphis. Retrieved from http://www.memphis.edu/ifti/pdfs/cait_phases_of_emergency_mngt.pdf.
- Banerjee, A., & Chaudhury, S. (2010). Statistics without tears: Populations and samples. *Industrial Psychiatry Journal*, 19(1), 60. doi: 10.4103/0972-6748.77642.
- Black, J., & Champion, D. (1979). *Methods and issues in social research*. New York, New York: Wiley.
- Blaikie, N. (2013). *Designing social research*. Cambridge, United Kingdom: Polity Press.
- Burns, N., & Grove, S. (2003). *Understanding nursing research*. Philadelphia, Pa.: Saunders.
- Chapman, S., Conway, P., & Kenney. (n.d). *A Digital Imaging and Preservation Microfilm: The Future of the Hybrid Approach for the Preservation of Brittle Books*. Retrieved from <https://pdfs.semanticscholar.org/89b1/465b2428a24c6310e7d0b3c8319d0884f4c5.pdf>
- Chisholm, V. (2015). *Preventative conservation and disaster management planning in cultural institutions* (Master of Arts). The State University of New Jersey.
- Coetzee, C., & Van Niekerk, D. (2012). Tracking the evolution of the disaster management cycle: A general system theory approach. *Jàmbá: Journal of Disaster Risk Studies*, 4(1), 1-9. <http://dx.doi.org/10.4102/jamba.v4i1.54>.
- Cloonan, M. (2001). W(H)ITHER preservation? *The Library Quarterly*, 71(2), 231-242. <http://dx.doi.org/10.1086/603262>.

- Conway, P. (2010). Preservation in the age of Google: Digitization, digital preservation, and dilemmas. *The Library Quarterly*, 80(1), 61-79. <http://dx.doi.org/10.1086/648463>.
- Cooper, G. (2008). Conceptualising social life. In N. Gilbert (Ed.). *Researching social life* (3rd ed.) (pp. 5-20). London, United Kingdom: Sage Publications.
- Cunha, G., Poole, F., & Walton, C. (1977). The Conservation and Preservation of Historical Records. *The American Archivist*, 40(3), 321-324. <http://dx.doi.org/10.17723/aarc.40.3.mqx0g5m571273001>
- Devault, G. (2018). *Talking points for convincing clients of data credibility*. Retrieved from <https://www.thebalancesmb.com/establishing-trustworthiness-in-qualitative-research-2297042>.
- Echezona, R., Ugwu, C., & Ozioko, R. (2010). Disaster management in University Libraries: perception, problems and strategies. *Injury Prevention*, 16(Supplement 1), A36-A36. doi: 10.1136/ip.2010.029215.129.
- Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative content analysis. *SAGE Open*, 4(1), 1-15. doi: 10.1177/2158244014522633.
- Evans, D., Gruba, P., & Zobel, J. (2011). *How to write a better thesis* (3rd ed.). Victoria, Australia: Melbourne University Press.
- Gregory, R.J. (1992) *Psychological testing: History, principles and applications*. Boston, Massachusetts: Allyn and Bacon.
- Harvey, R. (1994). *Preservation in libraries*. London, England: Bowker-Saur.
- Hidayat, B., & Egbu, C. (2010). A literature review of the role of project management in post disaster reconstruction. In *Procs 26th Annual ARCOM Conference*. Salford, England: University of Salford.
- Hlabangaan, K & Mnjama, N. 2008. Disaster preparedness in information centres in Botswana. *African Journal of Library, Archives and Information Science* 18(1), 63-74.
- Hodge, G. (2005). Preservation of and permanent access to electronic information resources: A system perspective. *Information Services and Use - Electronic Information Management*, 25(1). Retrieved from <https://pdfs.semanticscholar.org/dcbe/7e20a34c04d39927cf7fd728f76cecc992d7.pdf>.
- Hodge, G., & Frangakis, E. (2004). *Digital preservation and permanent access to scientific information: the state of the practice*. Retrieved from <http://www.icsti.org/IMG/pdf/preservationrpt-3.pdf>.
- Imenda, S. (2014). Is there a conceptual difference between theories and conceptual frameworks? *Journal of Social Science*, 38 (2), 185-195.

- In, J., & Lee, S. (2017). Statistical data presentation. *Korean Journal of Anesthesiology*, 70(3), 267–276. <http://doi.org/10.4097/kjae.2017.70.3.267>.
- Ikegune, D. (2016). Management and preservation of non-book materials in academic libraries: A case study of three university libraries in Nigeria. *Library Philosophy and Practice (e-Journal)*.
- Ishola, R. (2017). Preservation and disaster management of frequently-use collections in University Libraries: A Case Study of Three University Libraries. *Library Philosophy And Practice (E-Journal)*, (1568), 7. Retrieved from <http://digitalcommons.unl.edu/libphilprac/1568/>.
- Iyishu, V., Nkanu, W., & Ogar, F. (2013). Preservation and conservation of library materials in the digital age. *Journal of Information and Knowledge Management*, 4(2), 36-44.
- Jimerson, R. (2007). Archives for all: Professional responsibility and social justice. *The American Archivist*, 70(2), 252-281. <http://dx.doi.org/10.17723/aarc.70.2.5n20760751v643m7>.
- Jonker, J., & Pennink, B. (2010). *The essence of research methodology*. Berlin, Germany: Springer.
- Kahn, M. (2012). *Disaster response and planning for libraries*. Chicago, Illinois: American Library Association.
- Keakopa, S. (2008). Trends in long-term preservation of digital information: Challenges and possible solutions for Africa. In *Conference on Electronic Publishing and Dissemination "Putting African Journals on Line: Opportunities, Implications and Limits"* (pp. 2-16). Dakar: CODESRIA.
- Keller, S., & Conradin, K. (2018). Semi-structured interviews | SSWM. Retrieved from <https://www.sswm.info/planning-and-programming/decision-making/gathering-ideas/semi-structured-interviews>
- Labaree, R. (2018). *Research guides: Organizing your social sciences research paper: Limitations of the study*. Libguides.usc.edu. Retrieved from <http://libguides.usc.edu/writingguide/limitations>.
- Leedy, P. D. (1997). *Practical research: Planning and design*. 6th ed. Upper Saddle River, NJ: Merrill/Prentice Hall.
- Long, A. (2011). The role of libraries and archives in disaster preparedness, response, and research. In *ACURIL The Annual Conference* (p. 17). Florida: ACURIL.
- Mahmood, Z., & Mari, H. (2013). Deterioration of library resources and its causes: Theoretical review. *International Journal of Basic and Applied Science*, 1(4), 773-778.
- Marshall, C., & Rossman, G. (1999). *Designing qualitative research*. Thousand Oaks, United States: Sage.

- Matangira, V. (2016). *Records and archives management in postcolonial Zimbabwe's public service* (Ph. D). University of Namibia.
- McIlwaine, J., & Varlamoff, M. (2006). *IFLA disaster preparedness and planning: A brief manual*. Paris, France: IFLA-PAC.
- Miles, M., Huberman, A., & Saldaña, J. (2013). *Qualitative data analysis*. Thousand Oaks, California: Sage.
- Morgan, G., & Smith, J. (2014). Disaster management in libraries: the role of a disaster plan. *South African Journal Of Libraries And Information Science*, 65(1). doi: 10.7553/65-1-1502.
- Mouton, J. 2001. *How to succeed in your master's and doctoral studies. A South African Guide and Resource Book*. Pretoria, South Africa: J.L. van Schaik.
- Nengomasha, C. (2013). The past, present and future of records and archives management in sub-Saharan Africa. *Journal of The South African Society of Archivists*, 46, 2-9.
- Ngulube, P., & Magazi, L. (2013). Protecting documents against disasters and theft : the challenge before the public libraries in KwaZulu-Natal, South Africa. *South African Journal Of Libraries And Information Science*, 72(3), 185-197. doi: 10.7553/72-3-1115.
- Ngulube, P., Modisane, C., & Mnkeni-Saurombe, N. (2011). Disaster preparedness and the strategic management of public records in South Africa: guarding against collective cultural amnesia. *Information Development*, 27(4), 239-250. <http://dx.doi.org/10.1177/0266666911417641>.
- Ngulube, P. (2005) Disaster and security management in public archival institutions in ESARBICA region. *African Journal of Library, Archives and Information Science*, 15(1): 15–23.
- Ngulube, P. (2005). Environmental monitoring and control at national archives and libraries in Eastern and Southern Africa. *Libri* 55: 154-168.
- Ngulube, P. (2003). *Preservation and access to public records and archives in South Africa* (Ph. D). University of Kwazulu Natal.
- Ngulube, P. (2007). Preserving South Africa's paper trail and making public records available for present and future generations. *ESARBICA Journal* 26:45-69.
- Ngulube, P. (2005). Research procedures used by Master of Information Studies students at the University of Natal in the period 1982–2002 with special reference to their sampling techniques and survey response rates: A methodological discourse. *International Information & Library Review*, 37(2), 127-143. doi: 10.1080/10572317.2005.10762673.
- Njeze, M. (2012). Preservation and conservation issues in selected private universities in South-West Nigeria. *Library Philosophy and Practice (E-Journal)*, 6, 2-11.

- Ogunniyi, S., & Adejube, F. (2014). Strategies of curbing deterioration of undergraduate projects: A case study of six selected colleges of education libraries in Southern Nigeria. *Library Philosophy and Practice*. Retrieved from <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2506&context=libphilprac>.
- Olatokun, W. (2008). A survey of preservation and conservation practices and techniques in Nigerian University Libraries. *Library and Information Science Research Electronic Journal*, 18, (2): 2.
- Oliver, P. (2012). *Succeeding with your literature review: A handbook for students*. Berkshire, England: McGraw-Hill.
- Perri & Bellamy. C, (2012). *Principles of methodology: Research design in social science*. Los Angeles, California: SAGE publications Ltd.
- Punch, K. (2009). *Introduction to research methods in education*. London, England: Sage.
- Purcell, A. (2012). *Academic archives: Managing the next generation of college and university archives, records, and special collections*. Chicago, Illinois: American Library Association.
- Przybyla, A., & Huth, G. (2004). *Preparing for the worst: Managing records disasters*. New York, New York: The University of The State Of New York. Retrieved from http://www.archives.nysed.gov/common/archives/files/mr_pub82.pdf.
- Ritchie, J. (2014). *Qualitative research practice*. Los Angeles, California.: SAGE.
- Sani, L. (2013). Data collection techniques a guide for researchers in humanities and education. *International Research Journal of Computer Science and Information Systems (IRJCSIS)*, 2(3), 40-44.
- Sawant, S. (2014). A study on preservation and conservation practices in academic libraries in Mumbai. *Annals of Library and Information Studies*, 61: 153.
- Schmidt, L. (2011). *Using archives: A guide to effective research*. Chicago, Illinois: Society of American Archivists. Retrieved from https://www2.archivists.org/sites/all/files/UsingArchives_Final.pdf.
- Schurink, W.J. (2005). *Lecture thirteen: Evaluating qualitative research*. Johannesburg, South Africa: Department of Human Resource Management, University of Johannesburg.
- Segaetsho, T. (2014). Preservation risk assessment survey of the University of Botswana Library. *African Journal Of Library, Archives And Information Science*, 24(2), 175-186.
- Segaetsho, T., & Mnjama, N. (2012). Preservation of library materials at the University of Botswana Library. *Journal of The South African Society of Archivists*, 45: 68 - 70.

- Showkat, N., & Parveen, H. (2017). *Non-probability and probability sampling* [eBook] (pp. 1-9). Gandhinagar, India: e-PG Pathshala. Retrieved from https://www.researchgate.net/profile/Nayeem_Showkat/publication/319066480_Non-Probability_and_Probability_Sampling/links/598dd68ea6fdcc1225fca1e2/Non-Probability-and-Probability-Sampling.pdf?origin=publication_detail.
- Silverman, D. (2017). *Doing qualitative research* (5th ed.). Thousand Oaks, California: SAGE Publications Ltd.
- UNAM Archives. (2018). *Welcome*. Retrieved from <http://archives.unam.edu.na/>.
- Walker, A. (2013). *Basic preservation*. London, England: The British Library Board.
- Wamukoya, J & Mutula, S.M. (2005). E-records management and governance in East and Southern Africa. *Malaysian Journal of Library and Information Science* 10(2):67-83.
- Wanying, C. (2015). *Modelling the logistics of response to disasters* (Ph.D.). National Institute of Applied Sciences of Lyon.
- Wilkinson, D., & Birmingham, P. (2003). *Using research instruments*. New York, United States: Routledge Falmer.
- Yale, E. (2015). The history of archives: The state of the discipline. *Book History* 18, 333. Baltimore, United States: Johns Hopkins University Press.

APPENDIX A: Consent form

Title of Study: Preservation and Conservation of Archival Material at the University of Namibia Archives

Researcher: Munsaka Mudenda Hakoma.

University of Namibia, Department of Information and Communication Studies

Cell: +264817507101

E-mail: munsaka95@gmail.com.

This research aims to investigate the preservation practices of the University of Namibia Archives. The study is being conducted in partial fulfilment of the requirements for the BA in Records and Archives Management (Honours) at the University of Namibia.

You have been selected for this research in your official capacity as the person working with or responsible for the material in the Archives or as a user of the Archives. All responses are confidential and your privacy will be protected. All response will be treated with confidentiality and privacy.

Please note that participation is voluntary and you may choose to withdraw at any point. However, you are urged to participate in this research in order to make contribution to the preservation of archival material to the university Archives or any other archives which will therefore lead to the improving of organisational performance. This report will be made available to you on request.

For any questions or further clarifications with any aspect of this research, you may contact my research supervisors, in the Department of Information & Communication Studies, University of Namibia: Professor Catherine T. Nengomasha Tel: +264612063641, e-mail: cnengomasha@unam.na.

If you voluntarily agree to participate in this research, kindly indicate your consent by signing below:

Tick selection:

o Agree to be interviewed: **YES** **NO**

o Agree to be recorded: **YES** **NO**

SIGNATURE: _____

DATE: _____

APPENDIX B: Interview Guide 1: Head of Archives

I am a student at the University of Namibia studying for a B.A in Records and Archives management. I am researching on the preservation and conservation of archival material at the UNAM Archives. Thank you for allowing me to conduct this interview with you and before we begin may you please sign the consent form.

SECTION A: Prevention Phase

1. Does the Archive get full support from the university management financially?
2. Do you conduct a risk assessment of the building in order to identify any external and internal threats that might cause problems for the collections?
3. Does the building go through a routine maintenance?
4. Is there a company that is hired to perform the housekeeping chores?
5. Do you have any policies and regulations that guide the preservation of the material in your custody? If so which ones have been implemented?

SECTION B: Preparedness Phase

6. Do you have a disaster management plan in place?
7. Do the staff members of the Archives go through training that allows them to properly carry out their duties during emergencies or disasters?
8. Are there any emergency services companies or organisations offering services like refrigeration facilities that work in collaboration or are in agreement with the Archives to have them rescue staff members and also salvage the materials during emergencies or disasters? If so, which ones?
9. Does the building have functional equipment such as fire alarms, fire extinguishers, air conditioners, etc that can help stop a disaster from happening?
10. Does the Archives have appropriate supplies and tools such as First aid kit, Rubber boots, Garbage Bags/Plastic Bags, Buckets, Sponges, Mops/ Buckets, Storage Containers and Fans in readiness for a disaster?
11. Has there been an emergency or disaster at your Archives? Were you prepared for it? Please explain

SECTION C: Response Phase

12. Are there designated members in charge of raising an alarm and contacting appropriate members during emergencies or disasters?
13. How did you respond to the disaster/s you mentioned earlier? **(Only if the responses at question 11 shows that there was a disaster)**

SECTION D: Recovery Phase

14. Are the current staff members able to help with recovery after a disaster? If not, is the Archive able to contact experts in the field of conservation in times of recovering from a disaster?
15. How did the University Archives recover from the disaster mentioned at question 11? **(Only if the responses at question 11 shows that there was a disaster)**

SECTION E: Challenges

16. What are the problems that you see regarding preservation of the material in the Archives?
17. What are the reasons for these problems, if any?

Thank you for your time and contribution.

APPENDIX C: Interview Guide 2: Staff members of Archives (Archivists)

I am a student at the University of Namibia studying for a B.A in Records and Archives management. I am researching on the preservation and conservation of archival material at the UNAM Archives. Thank you for allowing me to conduct this interview with you and before we begin may you please sign the consent form.

SECTION A: Prevention Phase.

1. Are there any kind of security measures put in place in order to help with the preservation of the collections?
2. Do you think the University management offers full support when it comes to preservation of material in the archives?
3. Is the Archives using any technology for preservation?
4. Do you know of any policies and regulations that guide the preservation of the material in the Archives?

SECTION B: Preparedness Phase.

5. Have you under gone any training that allows you to properly carry out your duties during emergencies or disasters?
6. Does the Archives have appropriate supplies and tools such as First aid kit, Rubber boots Garbage Bags/Plastic Bags, Buckets, Sponges, Mops/ Buckets, Storage Containers and Fans in readiness for a disaster?
7. Do you educate the users on some basic preservation practices when they visit the archives?
8. Do you think the building has adequate equipment such as fire alarms, fire extinguishers, air conditioners, etc that can help stop a disaster from happening?
9. Have there been a disaster or disasters at your Archives? Were you prepared for it? Please explain.

SECTION C: Response Phase

10. Are there designated members in charge of raising an alarm and contacting appropriate members during emergencies or disasters?
11. Do you know of any emergency services that can be contacted in times of disaster?
12. How did you respond to the disaster/s you mentioned earlier? **(Only if the responses at question 9 shows that there was a disaster)**

SECTION D: Recovery Phase

13. Does the Archives have an alternative accommodation for the collections in cases of a disaster?
14. How did the University Archives recover from the disaster mentioned at question 9? **(Only if the responses at question 9 shows that there was a disaster)**

SECTION E: Challenges

15. What are the problems that you see regarding preservation of the material in the Archives?
16. What are the reasons for these problems, if any.

Thank you for your time and contribution.

APPENDIX D: PRESERVATION OBSERVATION CHECKLIST

| Specific area of observation | Yes | No | Comments |
|--|-----|----|----------|
| Good air circulation | | | |
| Good House Keeping | | | |
| Any security measures in place | | | |
| Policies | | | |
| Guidelines/ Regulations | | | |
| Proper Storage Facilities | | | |
| Lighting | | | |
| Good Building facility | | | |
| Good condition of collection | | | |
| Good water pipe connections | | | |
| Good electrical wiring | | | |
| Availability of Firefighting equipment | | | |